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Of Chemists and Chemical Engineers

Analysis of the
American Chemical Society's
Survey of Graduates in
Chemistry and Chemical Engineering

1990

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1990 SURVEY REPORT

STARTING SALARIES AND EMPLOYMENT STATUS OF

CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES

American Chemical Society
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Washington, D.C. 20036

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ACKNOWLEDGMENTS

Each year, at the direction of its Joint Board-Council Committee on Economic Status, the American Chemical Society (ACS) surveys recent chemistry and chemical engineering graduates to determine trends in starting salaries and employment status. This report presents detailed results of the 1990 Starting Salary Survey. A summary of the survey findings was published in the October 22 issue of *Chemical & Engineering News*.

Joan Burrelli and Alicia McGinnis of the Market and Business Analysis Department conducted this year's survey and prepared this report. Special thanks go to Seryu Patel and Shirley Ford for their assistance with the tables and charts in this report. Dr. Burrelli wrote the summary and comment on the following pages.

Robert K. Neuman, Special Assistant to the Director,
Membership Division

SUMMARY OF FINDINGS

SALARIES

Salaries for inexperienced BS chemical engineers continued to increase this year, although those for inexperienced BS chemists remained flat. The mean starting salary for inexperienced BS chemical engineers was $34,101 in 1990, up 5.8% over the $32,223 in 1989. The mean starting salary for inexperienced BS chemists was $23,526 in 1990, only marginally higher that the $23,167 in 1989.

Table 1 shows average starting salaries paid to inexperienced chemistry graduates for 1989 and 1990, and gives additional information concerning the variation among individual salaries within each group. Table 2 presents corresponding information for chemical engineering graduates. The trends in median starting salaries from 1980 to the present for inexperienced chemists and chemical engineers are shown in Figures 1 and 2.

For inexperienced chemists (those with less than 12 months of experience), 1990 mean starting salaries were:

$23,526 for the	BS,	up	1.5%,	or in constant dollars	down	3.7%
$28,825 for the	MS,	down	3.5%,	or in constant dollars	down	8.4%
$41,699 for the	PhD,	up	7.5%,	or in constant dollars	up	2.0%

Chemical engineers continue to receive larger starting salaries than do chemists with similar degrees. Among chemical engineers, the 1990 mean starting salaries were:

$34,101 for the	BS,	up	5.8%,	or in constant dollars	up	0.4%
$38,855 for the	MS,	up	8.8%,	or in constant dollars	up	3.3%
$49,055 for the	PhD,	up	7.1%,	or in constant dollars	up	1.6%

The Consumer Price Index rose 5.4% from August 1989 to August 1990.

Salaries vary according to the type and characteristics of the employer as well as the educational backgrounds of the graduates. Salaries are highest in private industry and lowest in colleges or universities. The median salary for new chemistry PhDs was $45,000 for those employed in industry and $28,500 for those employed in colleges or universities (see Table A-6). Similiarly, salaries are highest for chemists in applied research ($27,000 for new BS graduates) and lowest in teaching ($20,000 for new BS graduates) (see Table A-11).

Salaries for new BS chemistry graduates are highest in the West South Central region ($29,400) and lowest in the East South Central region ($19,000); however, salaries for new BS chemical engineering graduates are fairly similar across geographic regions. Median salaries for new BS chemical engineers vary from a high of $36,000 in the West South Central region to a low of $33,500 in the Mountain region.

Larger employers generally pay more than smaller ones. BS chemical engineers employed in larger firms (more than 24,000 employees) make 8% more than chemical engineers employed in small firms (less than 500 employees) and BS chemists employed in larger firms make 28% more than those employed in small firms. Chemical engineers are much more likely than chemists to be employed in large firms. Forty-one percent of new chemical engineers and only 23% of new chemists are employed in firms with more than 24,000 employees. Conversely, more than a third (36%) of chemists, but only 9% of chemical engineers, are employed in firms with less than 500 employees.

Table 1

**STARTING YEARLY SALARIES
OF INEXPERIENCED FULL-TIME EMPLOYED
CHEMISTRY GRADUATES**

by Degree: 1989 and 1990

	DEGREE LEVEL					
Salaries	Bachelor's		Master's		Ph.D.	
	1989	1990	1989	1990	1989	1990
90th Percentile	$29,200	$30,500	$36,200	$35,000	$46,100	$50,000
75th Percentile	27,000	28,000	33,000	32,600	44,000	47,000
50th Percentile	23,000	23,000	30,300	30,000	42,000	44,000
25th Percentile	19,600	20,000	26,000	25,000	35,500	39,000
10th Percentile	17,500	17,000	21,300	21,700	26,000	29,000
Mean	23,167	23,526	29,863	28,825	38,782	41,699
Count	318	435	79	66	150	202
Standard Deviation	5,033	5,209	5,986	5,505	8,343	8,017

Table 2

STARTING YEARLY SALARIES OF INEXPERIENCED FULL-TIME EMPLOYED CHEMICAL ENGINEERING GRADUATES

by Degree: 1989 and 1990

Salaries	DEGREE LEVEL					
	Bachelor's		Master's		Ph.D.	
	1989	1990	1989	1990	1989	1990
90th Percentile	$35,000	$37,000	$39,000	$42,000	$50,100	$54,000
75th Percentile	33,800	36,000	38,000	40,000	49,000	52,000
50th Percentile	33,000	35,200	36,000	37,200	47,000	50,000
25th Percentile	31,800	33,800	34,800	36,000	43,150	48,000
10th Percentile	28,800	28,900	32,000	34,800	40,000	43,000
Mean	32,223	34,101	35,697	38,855	45,802	49,055
Count	378	517	63	51	72	88
Standard Deviation	3,208	3,727	4,300	6,803	4,704	4,796

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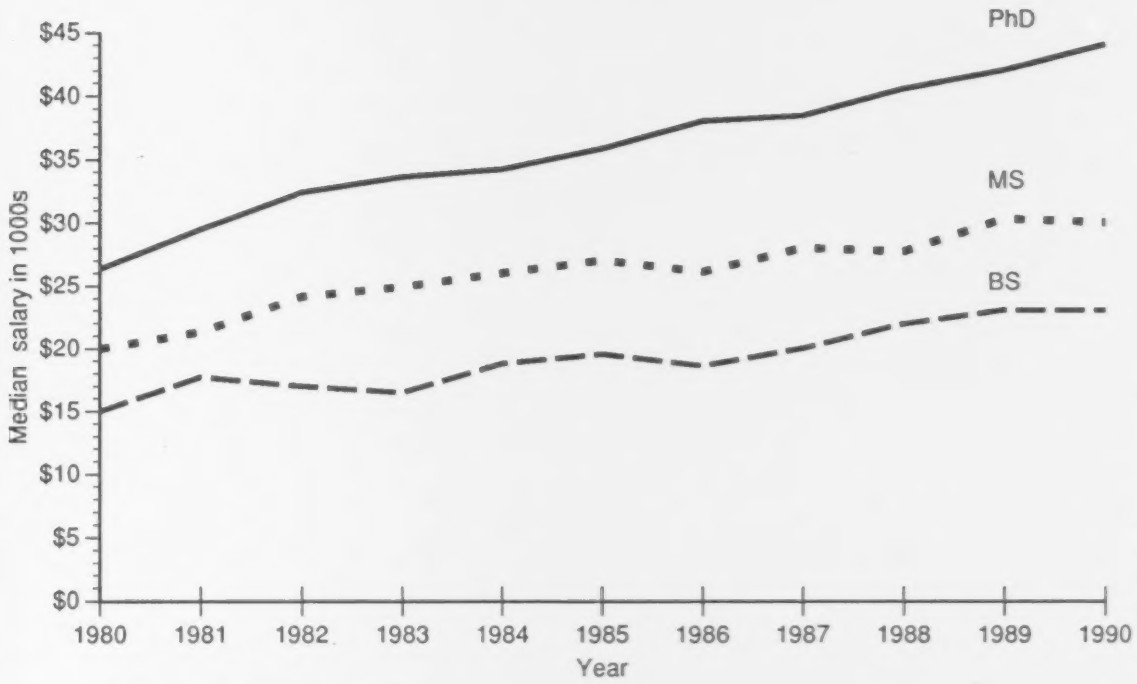
Figure 1

Median Starting Salaries of Inexperienced Chemists (in current dollars)



Source: ACS Salary Surveys

Median Starting Salaries of Inexperienced Chemists* (in current dollars)

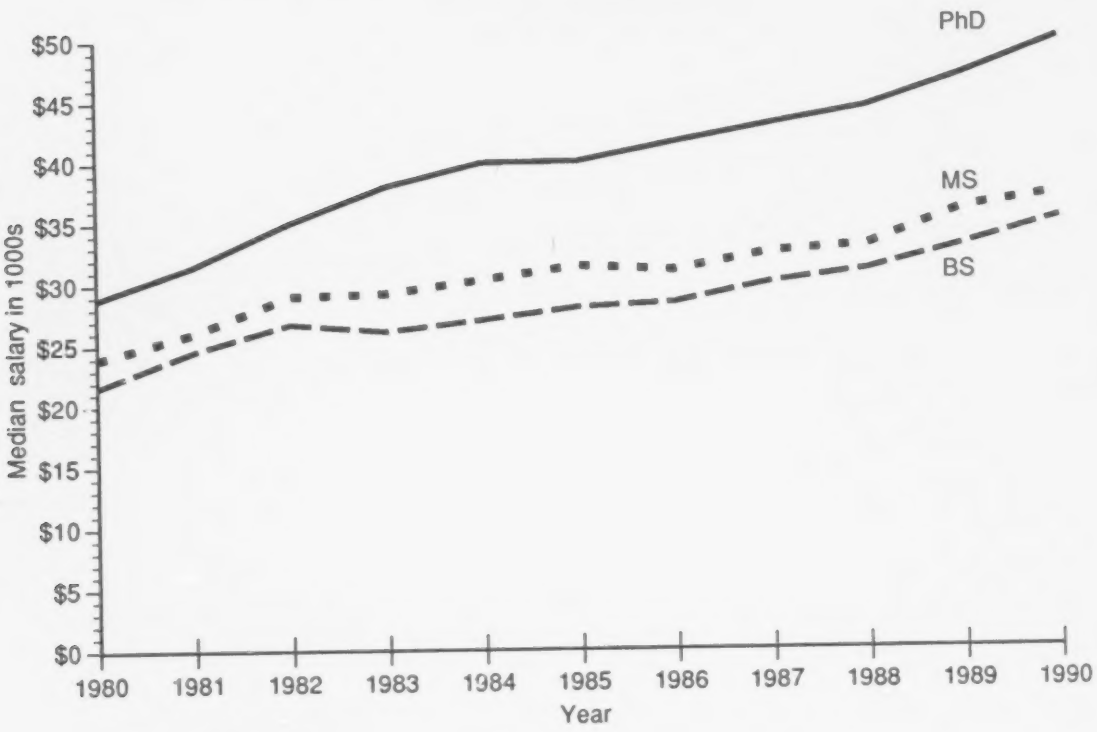
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
BS	15.0	17.7	17.0	16.5	18.8	19.5	18.6	20.0	21.9	23.0	23.0
MS	20.0	21.3	24.1	24.9	26.0	27.0	26.1	28.0	27.7	30.3	30.0
PhD	26.4	29.5	32.4	33.6	34.2	35.8	38.0	38.4	40.5	42.0	44.0

*Base annual salary in thousands of dollars

Source: ACS Starting Salary Surveys

Figure 2

Median Starting Salaries of Inexperienced Chemical Engineers (in current dollars)



Source: ACS Salary Surveys

Median Starting Salaries of Inexperienced Chemical Engineers* (in current dollars)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
BS	21.6	24.5	26.7	26.1	27.0	28.0	28.4	30.0	31.0	33.0	35.2
MS	23.9	26.0	29.0	29.2	30.3	31.4	31.0	32.5	33.0	36.0	37.2
PhD	28.8	31.5	35.0	38.0	39.9	40.0	41.5	43.0	44.4	47.0	50.0

*Base annual salary in thousands of dollars

Source: ACS Starting Salary Surveys

Generally speaking, bachelor's chemists receive higher salaries if their degrees are from schools that are in the New England or West South Central regions, are from schools that grant doctorate degrees, have participated in coop programs, or had a high grade point average in their major. For chemical engineers, the type, size, and location of school from which they received degrees make little difference in salaries. Chemical engineers' salaries are, however, directly related to grade point average in major and participation in a coop program.

POST-GRADUATION EMPLOYMENT STATUS

Unemployment rates for chemistry and chemical engineering graduates at all degree levels continued to remain low in 1990. For the third year in a row, the unemployment rate for new BS chemical engineers was lower than that for new BS chemists. The recent history for unemployment rates of bachelor's graduates is:

	1990	1989	1988	1987	1986	1985	1984	1983	1982
Chemical Engineering	6%	5%	8%	16%	21%	22%	24%	42%	26%
Chemistry	13%	10%	11%	13%	13%	23%	27%	31%	21%

As Figure 3 shows, unemployment for both chemistry and chemical engineering graduates was relatively high in the early to mid-1980s, and relatively low in the last few years, especially for chemical engineering graduates.

As further evidence of their improved employment outlook this year, chemical engineering graduates are increasingly able to find employment in the field of chemistry or chemical engineering. This year, 84% of bachelor's chemical engineering graduates found employment in chemistry and chemical engineering compared to last year's 82% and the previous year's 76%. The proportion of new chemistry graduates who found employment in chemistry or chemical engineering has been decreasing for the last few years: 63% found employment in chemistry or chemical engineering this year, compared to last year's 65% and the previous year's 68%.

POSTDOCTORAL FELLOWSHIPS

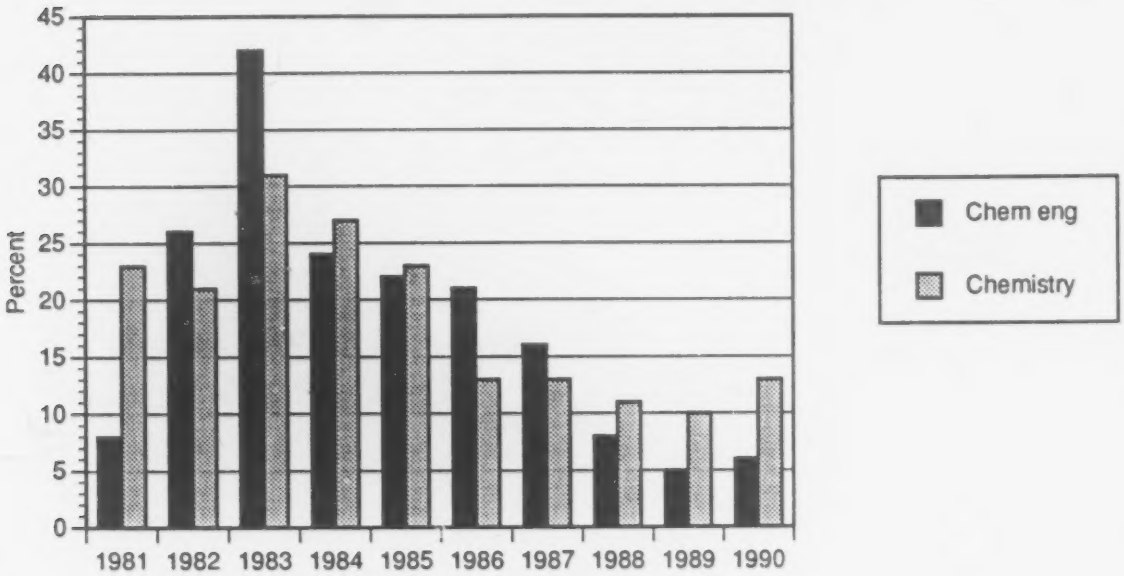
The fraction of new PhDs who accept postdoctoral fellowships is another rough indicator of demand. Because some of the new doctoral graduates who accept postdoctoral fellowships would have preferred full-time employment had it been available, an increase in the fraction accepting postdoctoral fellowships can indicate insufficient full-time employment. This year, this measure of demand indicates a more favorable employment situation for PhD chemistry graduates than was the case last year. Only 34% of new chemistry doctorates accepted postdoctoral fellowships this year compared with 40% last year (Table 3). Similarly, only 10% of new chemical engineering doctorates accepted postdoctoral fellowships this year compared with 14% in 1989.

PLANS FOR ADVANCED STUDY

Traditionally, between 50 and 55% of bachelor's chemistry graduates plan full-time studies (in any field) and another roughly 10% plan part-time studies. Bachelor's chemical engineering graduates are much less likely than chemistry graduates to plan further studies. Only 19% planned full-time studies this year. A summary of the plans of the 1990 graduates appears in Tables 4 and 5.

Figure 3

Unemployment Rates of Recent Bachelor's Graduates



Source: ACS Starting Salary Surveys

Table 3

POSTGRADUATION STATUS OF CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES: FALL 1990

Major and Employment Status	Bachelor's	Master's	Doctorate
CHEMISTRY			
Full-time employed:			
In chemistry or chemical engineering	33.0%	40.8%	52.6%
Outside chemistry or chemical engineering	8.7%	3.4%	2.9%
Grad. asst./postdoctoral or other fellowship	29.9%	40.8%	33.6%
Unemployed and seeking full-time employment	10.5%	6.9%	10.1%
Unemployed and not seeking full-time employment	17.9%	8.0%	.9%
Total	100.0	100.0	100.0
Number of responses	2,067	348	587
CHEMICAL ENGINEERING			
Full-time employed:			
In chemistry or chemical engineering	68.8%	49.1%	81.0%
Outside chemistry or chemical engineering	8.0%	3.7%	4.0%
Grad. asst./postdoctoral or other fellowship	12.8%	34.1%	9.8%
Unemployed and seeking full-time employment	5.2%	7.0%	5.2%
Unemployed and not seeking full-time employment	5.2%	6.1%	---
Total	100.0	100.0	100.0
Number of responses	1,145	214	174

Table 4

PLANS FOR FURTHER STUDY OF B.S. CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES: FALL 1990

Plans	Chemistry	Chemical Engineering
Further studies	60.2%	30.2%
Full-time	(50.9%)	(19.2%)
Part-time	(9.3%)	(10.9%)
No plans for further studies	(39.8%)	(69.8%)
Total	100.0	100.0
Number of responses	2,313	1,169

Table 5

FIELDS OF STUDY OF B.S. CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES WHO PLAN FURTHER STUDIES
Fall 1990

Fields of Study	Chemistry	Chemical Engineering
FULL-TIME STUDY		
Chemistry or biochemistry	51.3%	4.5%
Chemical or biochemical engineering	1.4%	69.1%
Medicine or dentistry	32.2%	12.1%
Business or management	.6%	1.8%
All others	14.5%	12.5%
Total	100.0	100.0
Number of responses	1,174	223
PART-TIME STUDY		
Chemistry or biochemistry	49.7%	1.6%
Chemical or biochemical engineering	5.6%	33.3%
Medicine or dentistry	2.8%	0.0%
Business or management	11.2%	40.5%
All others	30.7%	24.6%
Total	100.0	100.0
Number of responses	215	126

Each year, roughly one-third of new bachelor's chemistry graduates plan to pursue chemistry graduate study, one-third plan graduate study in another field, and one-third have plans for immediate employment (see Figure 4). Of those bachelor's chemistry graduates who planned further studies in another discipline in 1990, slightly more than half (53%) planned to go into medicine, 9% planned to go into dentistry or pharmacy, 5% planned to study business, 17% planned to study other natural sciences and engineering, and 16% planned to go into other fields. The choice of field of study has not changed appreciably in the last decade.

Of those bachelor's chemistry graduates who chose immediate employment, the majority chose industrial employment. Of those who are employed, 70% are employed in industry, and about 10% each are employed in academia, government, and in hospitals or independent labs.

CHEMISTRY GRADUATES WHO HAVE COMPLETED ACS APPROVED PROGRAMS

Graduates completing undergraduate chemistry programs approved by the ACS Committee on Professional Training have historically received higher starting salaries than graduates completing non-approved programs. This year, however, completion of an ACS approved program made little difference in starting salaries (see Table A-12).

Graduates of approved programs are more likely than graduates of non-approved programs to plan further studies and to plan further studies in chemistry. Fifty-two percent of graduates of approved programs planned full-time studies compared with 49% of graduates of non-approved programs (Table B-4b). Of the bachelor's chemistry graduates who plan full-time studies, most (64%) of those from approved programs plan to study chemistry compared with only 19% of those from non-approved programs. Conversely, almost half (46%) of those from non-approved programs plan to study medicine compared with only 16% of those from approved programs (Table C-5).

Graduates of approved programs are also less likely than those from non-approved programs to be unemployed, and among those employed, are more likely to be employed in chemistry or chemical engineering. The unemployment rate for bachelor's graduates of approved programs was 10% this year compared to 16% for graduates of non-approved programs (Table B-4a).* Among the full-time employed bachelor's chemistry graduates, 84% of graduates of ACS approved programs, but only 75% of graduates of non-approved programs were employed in chemistry or chemical engineering.

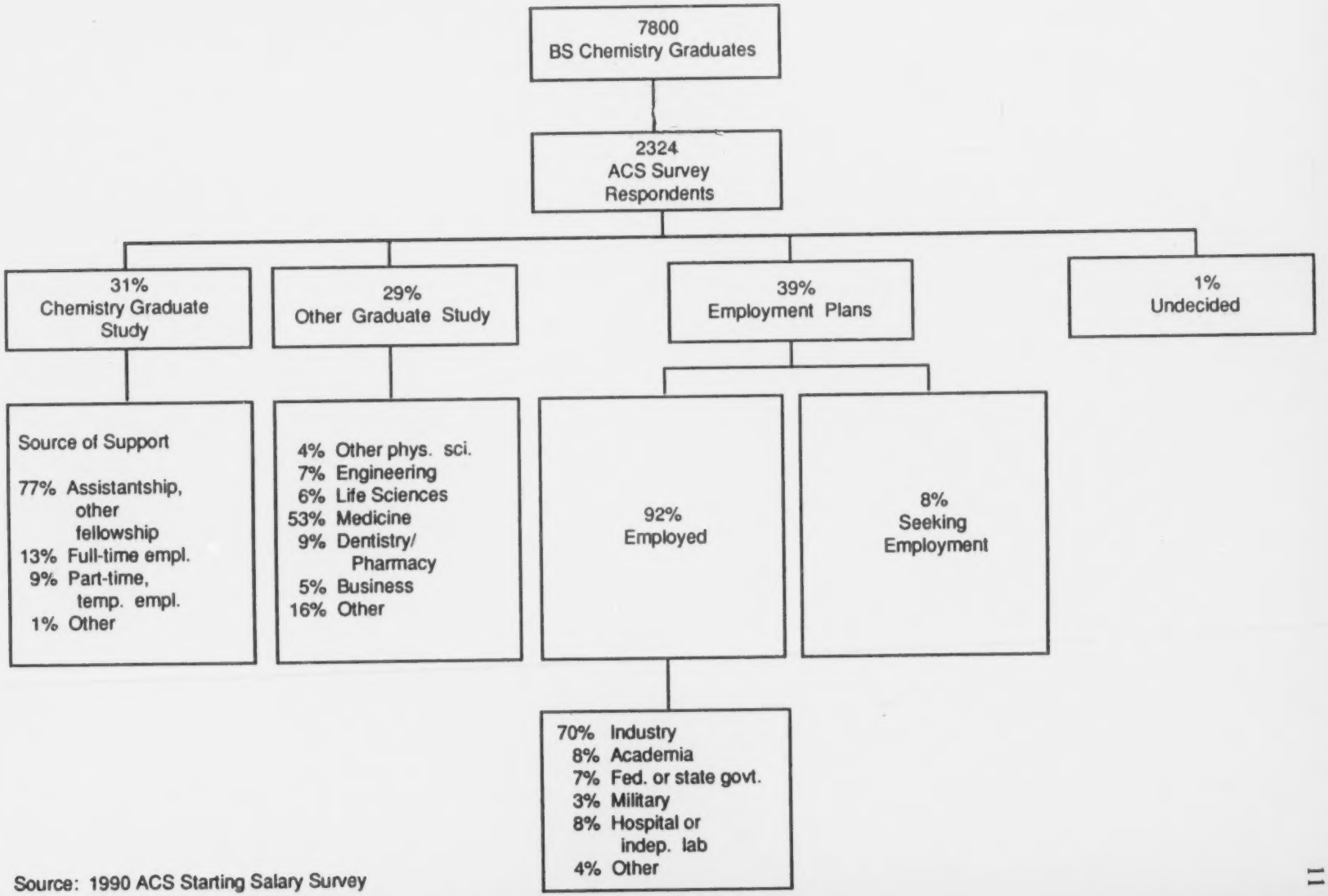
EMPLOYMENT OF BACHELOR'S CHEMISTS AS TECHNICIANS

As has been true for the last several years, about 40% of the bachelor's chemistry graduates who were employed full time in industry responded that they were employed as technicians. Those employed as technicians earned significantly lower salaries than those not employed as technicians. The median salary of bachelor's chemistry graduates employed in industry as technicians was $23,000 whereas the median salary of those not employed as technicians was $26,500. Those employed as technicians were more likely than those not employed as technicians to have earned their degree at master's-granting public schools, and had, in general, slightly lower grade point averages; but they differed little from non-technicians in terms of completion of an ACS approved program.

*Note that the calculation for the unemployment rate excludes those persons who are not seeking employment.

Figure 4

Post-graduation Plans of 1990 BS Chemistry Graduates



Source: 1990 ACS Starting Salary Survey

RACE/ETHNIC COMPOSITION OF NEW GRADUATES

With the exception of Asians, the racial/ethnic composition of new graduates has not changed appreciably since 1973 (the first year ACS collected such information). Blacks, Hispanics, and American Indians are very small proportions of new graduates in chemistry and chemical engineering at all degree levels (Table F-1). American Indians are very small proportions of new graduates in chemistry and chemical engineering at all degree levels (Table F-1). American Indians have historically been less than 1%, and Blacks and Hispanics have been approximately 2% each, of new chemistry graduates. Among chemical engineering graduates, Blacks and Hispanics have made some gains over the past years. In 1990, Blacks were 2%, and Hispanics were 5%, of bachelor's chemical engineering graduates (Table F-4), whereas in 1973, they were each less than one percent.

Asians are the largest minority group among new chemistry graduates--7% of bachelor's, 22% of master's, and 24% of PhD graduates. The proportion of new graduates who are Asian has more than doubled since 1973. In that year, Asians were 3% of bachelor's, 9% of master's, and 9% of PhD graduates. Among this year's bachelor's chemistry graduates, the majority (78%) of Asians are U.S. citizens and another 15% are permanent residents (Table F-1), so that only 6% are likely to return to their home countries. The reverse is true of PhD chemistry graduates--only 5% are U.S. citizens and the majority (83%) are noncitizens here on temporary visas.

SCOPE AND METHOD

OBJECTIVES

The 1990 Starting Salary Survey is the 39th in the series of annual surveys now conducted by the American Chemical Society. Summaries of the results of these surveys appear annually in the "Employment Outlook" edition of the *Chemical & Engineering News*. This year preliminary results were published on October 22.

The primary objective of the survey is to gather data on the starting salaries and occupational status of new chemists and chemical engineers who graduated during the 1989-90 academic year. The survey covers bachelor's, master's and doctoral degree recipients. In addition, the survey provides information on graduates' sex, citizenship, and ethnicity.

METHOD OF COLLECTION AND TIMING OF SURVEY

Chemistry departments approved by the ACS and chemical engineering departments approved by the American Institute of Chemical Engineers and the Engineer's Council for Professional Development provided names and addresses of students that graduated between August, 1989 and June, 1990. During the summer of 1990, questionnaires were mailed to those graduates who had U.S. addresses.

EXTENT OF COVERAGE

Survey questionnaires were mailed by first class mail from July through August to 8,733 graduates. Approximately 3 weeks after each initial mailing, a second questionnaire and cover letter were sent to non-respondents. By the cutoff date of October 17, ACS had received 5,015 usable responses. Another 463 questionnaires were returned as nondeliverable. No attempt was made to examine the characteristics of graduates from departments that did not participate in the survey or of those graduates who did not mail back completed questionnaires.

DEFINITIONS

The term "inexperienced" as used in the tables refers to those who have 12 months or less of prior professional work experience. The term "chemist" refers to one who received a degree in chemistry. The term "chemical engineer" refers to one who received a degree in chemical engineering. Salary tables are based only on salaries of those who found full-time employment in chemistry or chemical engineering. Postdoctoral salaries are analyzed separately. Salaries are reported in U.S. dollars.

The Technical Notes present methods for estimating sampling error and also explain certain discrepancies among some of the tables.

GEOGRAPHIC REGIONS

PACIFIC

Alaska
California
Hawaii
Oregon
Washington

MOUNTAIN

Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Utah
Wyoming

WEST NORTH CENTRAL

Iowa
Kansas
Minnesota
Missouri
Nebraska
North Dakota
South Dakota

WEST SOUTH CENTRAL

Arkansas
Louisiana
Oklahoma
Texas

EAST NORTH CENTRAL

Illinois
Indiana
Michigan
Ohio
Wisconsin

EAST SOUTH CENTRAL

Alabama
Kentucky
Mississippi
Tennessee

MIDDLE ATLANTIC

New Jersey
New York
Pennsylvania

SOUTH ATLANTIC

Delaware
District of Columbia
Florida
Georgia
Maryland
North Carolina
South Carolina
Virginia
West Virginia

NEW ENGLAND

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

TECHNICAL NOTES

DISCREPANCIES AMONG TABLES

Because not all individuals responded to all of the survey items, some pairs of tables contain totals that should be identical but are not. For example, one table may group PhDs by sex and another by employer. The totals will differ unless the number who did not indicate their sex is the same as the number who did not indicate their employer.

ESTIMATES OF MEDIAN SALARIES

Median salaries displayed within the cells of the salary tables are sample medians and are therefore subject to sampling error. This error could be quite large, especially when the number of respondents in the corresponding cell is small. Therefore, median salaries in cells with fewer than 15 respondents should not be used to estimate their corresponding population medians. Similarly, tables showing the 25th and 75th salary percentiles, and those showing the 10th and 90th salary percentiles, should have at least 25 respondents and 40 respondents, respectively.

COMPARING SALARIES

Often questions arise concerning women's salaries as compared with men's, or chemists' salaries as compared with chemical engineers'. These and similar comparisons require caution.

Statistical tests should be performed to determine whether observed differences in salaries of various sample groups could be mere chance occurrences resulting from peculiarities of the samples. Whether a difference in salaries is "statistically significant" depends not only on the magnitude of the difference but also on the sample sizes and the magnitudes of the sample standard deviations.

Discussion of statistical tests of significance may be found in *Introductory Statistics for Business and Economics,* by Thomas H. Wonnacott and Ronald J. Wonnacott, NY: Wiley, 1984, and in other similar texts.

ESTIMATING SAMPLING ERROR FOR PERCENTS

Percents in this report are derived from the sample. If the entire population had received and returned questionnaires, most estimates would be somewhat different. How much different? Although this question does not have an exact answer, the table below does provide some guidance. To use the table, find the column headed by the percent (p) derived from the sample, and find the row appropriate for the sample size (n). (Approximations for p and n may be used.) Note the number in that column and that row of the table.

This number from the body of the table measures the precision with which the sample percent estimates the percent of the entire population. Specifically, if this procedure is applied repeatedly, about 95 times out of 100, the population percent will differ from the sample percent by no more than the amount shown in the table.

Approximate Sampling Errors for Percents

n	p= 10% or 90%	p= 20% or 80%	p= 30% or 70%	p= 40% or 60%	p= 50%
50	8.3%	11.1%	12.7%	13.6%	13.9%
100	5.9	7.8	9.0	9.6	9.8
200	4.2	5.5	6.4	6.8	6.9
500	2.6	3.5	4.0	4.3	4.4
1000	1.9	2.5	2.8	3.0	3.1
2000	1.3	1.8	2.0	2.1	2.2
5000	0.8	1.1	1.3	1.4	1.4
10000	0.6	0.8	0.9	1.0	1.0

In Table B-1a for example, 217 respondents classified as chemists indicated their highest degree as the bachelor's degree, and their employment status as seeking employment. The percent of this group who are women is listed as 49.3 percent (p=49.3). A "95% confidence interval" for this percent may be approximated by taking n and p to be about 200 and 50%. The above table shows an approximate sampling error of 6.9%. Hence, the 95% confidence interval is 42.4% to 56.2%. If estimates were made at this "level of confidence" from 100 similar samples, about 95 of the confidence intervals calculated from these samples would contain the true population percent.

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All Chemistry and Chemical Engineering Graduates				
Age	Sex	BS	D-1	89
		MS	D-2	90
		PhD	D-3	91
Postdoctoral Chemists				
Age	Sex		D-4	92
NUMBER OF JOB OFFERS				
Full-time Employed Inexperienced Chemists				
Number of Offers	Degree	Sex	E-1	93
Full-time Employed Experienced Chemists				
Number of Offers	Degree	Sex	E-2	94
Full-time Inexperienced Chemical Engineers				
Number of Offers	Degree	Sex	E-3	95
Full-time Experienced Chemical Engineers				
Number of Offers	Degree	Sex	E-4	96
ETHNIC CLASSIFICATION AND CITIZENSHIP				
All Chemistry Graduates				
Citizenship	Degree	Ethnicity	F-1	97
		Sex	F-2	100
Minority Chemistry Graduates				
Minority Classification	Degree	Sex	F-3	101
All Chemical Engineering Graduates				
Citizenship	Degree	Ethnicity	F-4	102
		Sex	F-5	105
Minority Chemical Engineering Graduates				
Minority Classification	Degree	Sex	F-6	106

Table A-1

SALARIES of CHEMISTS employed FULL-TIME
by DEGREE and EXPERIENCE
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
WORK EXPERIENCE			
LESS THAN 12 MONTHS			
Median	23,000	30,000	44,000
Mean	23,526	28,825	41,699
Std Dev	5,209	5,505	8,017
Count	435	66	202
12 TO 36 MONTHS			
Median	25,550	31,385	44,000
Mean	25,919	30,907	41,533
Std Dev	4,820	8,276	8,375
Count	146	36	55
MORE THAN 36 MONTHS			
Median	30,000	37,350	45,000
Mean	29,664	36,232	40,594
Std Dev	7,641	8,123	12,077
Count	101	39	52
TOTAL			
Median	24,500	31,500	44,000
Mean	24,960	31,374	41,483
Std Dev	5,977	7,649	8,864
Count	682	141	309

Table A-2

SALARIES of CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and EXPERIENCE
1990 ACS Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
WORK EXPERIENCE			
LESS THAN 12 MONTHS			
Median	35,220	37,200	50,000
Mean	34,101	38,855	49,055
Std Dev	3,727	6,803	4,796
Count	517	51	88
12 TO 36 MONTHS			
Median	35,700	37,350	51,000
Mean	35,096	36,607	49,518
Std Dev	2,883	4,252	8,165
Count	245	31	35
MORE THAN 36 MONTHS			
Median	35,310	43,500	50,500
Mean	36,116	42,868	48,294
Std Dev	5,941	7,024	11,021
Count	24	22	18
TOTAL			
Median	35,400	38,000	50,000
Mean	34,474	39,057	49,060
Std Dev	3,613	6,550	6,724
Count	786	104	141

Table A-3

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
in PRIVATE INDUSTRY by SEX and DEGREE
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN			
Median	24,000	32,400	45,000
Mean	24,627	32,190	44,979
Std Dev	4,767	3,070	4,396
Count	166	21	114
WOMEN			
Median	25,000	30,000	45,000
Mean	25,055	30,821	44,327
Std Dev	5,280	3,860	4,423
Count	152	21	43
TOTAL			
Median	24,550	32,030	45,000
Mean	24,833	31,505	44,796
Std Dev	5,016	3,514	4,399
Count	318	42	157

Table A-4

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME in PRIVATE INDUSTRY by SEX and DEGREE
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN			
Median	35,400	37,000	50,000
Mean	34,506	39,318	49,205
Std Dev	3,297	8,099	4,251
Count	334	35	67
WOMEN			
Median	35,002	38,000	49,600
Mean	34,550	37,660	50,000
Std Dev	2,692	2,069	2,148
Count	148	13	9
TOTAL			
Median	35,400	37,200	50,000
Mean	34,520	38,869	49,292
Std Dev	3,123	7,007	4,071
Count	482	48	76

Table A-5

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and SEX
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN			
Median	23,000	30,000	44,500
Mean	23,588	29,145	41,903
Std Dev	4,992	5,498	8,248
Count	220	35	145
WOMEN			
Median	23,000	30,000	43,750
Mean	23,462	28,464	41,558
Std Dev	5,433	5,581	7,152
Count	215	31	55
TOTAL			
Median	23,000	30,000	44,000
Mean	23,526	28,825	41,808
Std Dev	5,209	5,505	7,943
Count	435	66	200

Table A-6

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	24,550	32,030	45,000
Mean	24,833	31,505	44,760
Std Dev	5,016	3,514	4,407
Count	318	42	158
COLLEGE OR UNIV			
Median	17,800	24,000	28,506
Mean	17,911	23,500	28,172
Std Dev	3,123	5,970	6,781
Count	24	11	35
HIGH SCHOOL			
Median	20,200	22,000	---
Mean	19,809	22,000	---
Std Dev	2,909	8,485	---
Count	15	2	0
FEDERAL GOVT			
Median	20,195	26,500	37,650
Mean	20,045	27,270	39,567
Std Dev	2,937	2,907	6,919
Count	17	4	6
MILITARY			
Median	16,646	25,000	---
Mean	19,369	25,000	---
Std Dev	4,234	0	---
Count	5	1	0
STATE OR LOCAL GOVT			
Median	22,958	16,656	36,000
Mean	22,642	16,656	36,000
Std Dev	2,595	0	0
Count	10	1	1
HOSPITAL OR LAB			
Median	18,500	25,000	53,000
Mean	19,369	24,333	53,000
Std Dev	3,751	3,055	0
Count	38	3	1
OTHER			
Median	23,000	26,510	37,500
Mean	24,471	26,510	37,500
Std Dev	5,594	6,378	0
Count	8	2	1
TOTAL			
Median	23,000	30,000	44,000
Mean	23,526	28,825	41,699
Std Dev	5,209	5,505	8,017
Count	435	66	202

Table A-7

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER - MEN only
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	24,000	32,400	45,000
Mean	24,627	32,190	44,979
Std Dev	4,767	3,070	4,396
Count	166	21	114
COLLEGE OR UNIV			
Median	18,600	20,000	28,000
Mean	17,971	19,800	28,211
Std Dev	3,387	5,586	7,477
Count	10	5	25
HIGH SCHOOL			
Median	20,100	28,000	---
Mean	19,120	28,000	---
Std Dev	3,245	0	---
Count	7	1	0
FEDERAL GOVT			
Median	20,500	26,500	38,300
Mean	21,682	27,270	40,480
Std Dev	2,937	2,907	7,320
Count	8	4	5
MILITARY			
Median	16,646	25,000	---
Mean	18,949	25,000	---
Std Dev	4,380	0	---
Count	3	1	0
STATE OR LOCAL GOVT			
Median	22,958	---	---
Mean	22,552	---	---
Std Dev	2,458	---	---
Count	8	0	0
HOSPITAL OR LAB			
Median	18,000	26,000	53,000
Mean	18,627	26,000	53,000
Std Dev	3,815	1,414	0
Count	14	2	1
OTHER			
Median	28,900	31,020	---
Mean	27,575	31,020	---
Std Dev	5,328	0	---
Count	4	1	0
TOTAL			
Median	23,000	30,000	44,500
Mean	23,588	29,145	41,903
Std Dev	4,992	5,498	8,248
Count	220	35	145

Table A-8

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER - WOMEN only
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	25,000	30,000	45,000
Mean	25,055	30,821	44,327
Std Dev	5,280	3,860	4,423
Count	152	21	43
COLLEGE OR UNIV			
Median	17,000	25,901	30,000
Mean	17,869	26,584	28,700
Std Dev	3,068	4,606	4,583
Count	14	6	9
HIGH SCHOOL			
Median	21,000	16,000	---
Mean	20,400	16,000	---
Std Dev	2,696	0	---
Count	8	1	0
FEDERAL GOVT			
Median	19,000	---	35,000
Mean	18,589	---	35,000
Std Dev	2,154	---	0
Count	9	0	1
MILITARY			
Median	20,000	---	---
Mean	20,000	---	---
Std Dev	5,657	---	---
Count	2	0	0
STATE OR LOCAL GOVT			
Median	23,000	16,656	36,000
Mean	23,000	16,656	36,000
Std Dev	4,243	0	0
Count	2	1	1
HOSPITAL OR LAB			
Median	19,000	21,000	---
Mean	19,821	21,000	---
Std Dev	3,722	0	---
Count	24	1	0
OTHER			
Median	20,000	22,000	37,500
Mean	20,333	22,000	37,500
Std Dev	2,517	0	0
Count	4	1	1
TOTAL			
Median	23,000	30,000	43,750
Mean	23,462	28,464	41,558
Std Dev	5,433	5,581	7,152
Count	215	31	55

Table A-9

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME in INDUSTRY
by DEGREE and TYPE OF INDUSTRY
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
TYPE OF INDUSTRY			
NONMANUFACTURING			
Median	22,000	30,000	44,000
Mean	21,863	31,178	41,583
Std Dev	4,280	3,926	7,153
Count	93	9	18
BASIC CHEMS			
Median	28,000	33,500	45,300
Mean	25,113	33,500	45,024
Std Dev	5,974	0	2,137
Count	15	1	25
SPECIALTY CHEMS			
Median	26,000	28,000	45,000
Mean	26,194	27,667	45,067
Std Dev	4,397	2,517	2,945
Count	51	3	33
PETROLEUM			
Median	25,400	---	47,500
Mean	23,480	---	46,791
Std Dev	6,492	---	4,718
Count	6	0	11
PHARMACEUTICALS			
Median	28,000	32,000	43,500
Mean	26,872	31,632	44,282
Std Dev	4,918	3,831	5,077
Count	88	19	32
PLASTICS			
Median	27,000	30,000	45,006
Mean	25,263	30,000	45,901
Std Dev	3,279	0	2,702
Count	8	1	11
OTHER			
Median	24,500	32,760	45,250
Mean	25,393	32,815	45,587
Std Dev	4,407	2,374	3,916
Count	56	8	28
TOTAL			
Median	24,600	32,000	45,000
Mean	24,858	31,479	44,760
Std Dev	5,005	3,553	4,407
Count	317	41	158

Table A-10

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME in INDUSTRY
by DEGREE and EMPLOYER SIZE
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
NUMBER OF EMPLOYEES			
LESS THAN 500			
Median	22,000	30,000	42,000
Mean	21,794	29,809	40,714
Std Dev	4,220	3,952	5,686
Count	112	11	19
500 TO 2,499			
Median	23,000	30,750	44,000
Mean	24,061	30,702	43,347
Std Dev	4,122	2,802	5,487
Count	56	10	25
2,500 TO 9,999			
Median	28,000	32,550	44,000
Mean	26,712	31,867	44,672
Std Dev	4,510	4,501	3,523
Count	41	6	31
10,000 TO 24,999			
Median	28,000	33,700	46,500
Mean	27,008	33,750	47,195
Std Dev	5,527	3,280	3,076
Count	34	4	28
24,000 OR MORE			
Median	28,218	33,250	45,600
Mean	27,906	33,210	45,509
Std Dev	4,013	2,483	3,272
Count	71	10	48
TOTAL			
Median	24,500	32,060	45,000
Mean	24,794	31,542	44,698
Std Dev	5,026	3,549	4,466
Count	314	41	151

Table A-11

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and WORK FUNCTION
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
WORK FUNCTION			
TEACHING			
Median	20,000	24,000	29,500
Mean	19,062	25,357	30,336
Std Dev	3,506	7,179	5,532
Count	21	7	19
MGMT OR ADMIN			
Median	25,000	28,050	40,000
Mean	23,946	28,525	41,333
Std Dev	5,955	3,675	6,110
Count	15	4	3
BASIC RESEARCH			
Median	23,000	27,350	44,050
Mean	23,550	26,437	39,484
Std Dev	5,781	6,393	11,278
Count	94	14	48
APPLIED RESEARCH			
Median	27,000	31,850	45,000
Mean	25,906	30,994	44,542
Std Dev	4,443	3,550	4,395
Count	101	28	106
PRODUCTION			
Median	22,500	26,500	42,800
Mean	22,879	27,800	42,872
Std Dev	4,558	5,439	4,762
Count	124	6	18
OTHER			
Median	21,150	30,500	41,250
Mean	22,734	29,183	41,667
Std Dev	5,417	7,647	7,055
Count	76	6	6
TOTAL			
Median	23,000	30,000	44,000
Mean	23,575	28,792	41,708
Std Dev	5,205	5,541	8,037
Count	431	65	200

Table A-12

SALARIES of INEXPERIENCED B.S. CHEMISTS employed FULL-TIME
by EMPLOYER and CERTIFICATION
1990 Starting Salary Survey

	CURRICULUM APPROVED?		TOTAL
	NO	YES	
EMPLOYER			
PRIVATE INDUSTRY			
Median	24,650	24,500	24,550
Mean	24,609	25,030	24,833
Std Dev	5,066	4,979	5,016
Count	149	169	318
COLLEGE OR UNIV			
Median	18,600	16,500	17,800
Mean	18,449	17,373	17,911
Std Dev	2,926	3,359	3,123
Count	12	12	24
HIGH SCHOOL			
Median	20,200	19,250	20,200
Mean	19,911	19,250	19,809
Std Dev	2,696	5,303	2,909
Count	12	3	15
FEDERAL GOVT			
Median	20,195	20,098	20,195
Mean	19,656	20,317	20,045
Std Dev	1,309	3,741	2,937
Count	7	10	17
MILITARY			
Median	20,323	16,200	16,646
Mean	20,323	18,733	19,369
Std Dev	5,200	4,562	4,234
Count	2	3	5
STATE OR LOCAL GOVT			
Median	23,000	21,300	22,958
Mean	23,466	21,818	22,642
Std Dev	2,424	2,753	2,595
Count	5	5	10
HOSPITAL OR LAB			
Median	18,250	20,000	18,500
Mean	18,476	20,679	19,369
Std Dev	2,522	4,852	3,751
Count	22	16	38
OTHER			
Median	23,000	24,400	23,000
Mean	25,167	23,950	24,471
Std Dev	6,526	5,774	5,594
Count	4	4	8
TOTAL			
Median	23,000	23,000	23,000
Mean	23,152	23,884	23,526
Std Dev	5,131	5,269	5,209
Count	213	222	435

Table A-13

SALARIES of INEXPERIENCED MS and PhD CHEMISTS employed FULL-TIME
by DEGREE and DEGREE SPECIALTY
1990 Starting Salary Survey

	HIGHEST DEGREE	
	MS	PHD
DEGREE SPECIALTY		
BIOCHEMISTRY		
Median	26,000	35,625
Mean	25,073	33,938
Std Dev	4,452	9,466
Count	9	5
GENERAL CHEM		
Median	25,000	31,500
Mean	27,500	31,500
Std Dev	5,000	0
Count	4	1
ANALYTICAL CHEM		
Median	31,750	44,000
Mean	30,543	42,875
Std Dev	3,810	7,111
Count	22	48
INORGANIC CHEM		
Median	28,000	44,100
Mean	26,956	40,642
Std Dev	4,895	8,516
Count	5	39
ORGANIC CHEM		
Median	32,000	44,700
Mean	30,088	42,363
Std Dev	5,935	7,832
Count	16	63
PHYSICAL CHEM		
Median	30,000	42,000
Mean	27,957	38,997
Std Dev	7,828	8,439
Count	7	34
POLYMER CHEM		
Median	26,500	47,610
Mean	26,500	48,027
Std Dev	13,435	2,797
Count	2	12
OTHER CHEM		
Median	30,000	---
Mean	30,000	---
Std Dev	0	---
Count	1	0
TOTAL		
Median	30,000	44,000
Mean	28,825	41,699
Std Dev	5,505	8,017
Count	66	202

Table A-14

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and GEOGRAPHIC REGION
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
REGION			
Pacific			
Median	22,083	30,000	44,000
Mean	22,964	28,833	40,902
Std Dev	4,684	3,710	8,756
Count	32	6	16
Mountain			
Median	20,000	26,801	29,000
Mean	21,529	26,801	33,760
Std Dev	5,083	0	12,696
Count	23	1	5
West North Central			
Median	20,000	32,000	44,280
Mean	20,694	32,000	40,927
Std Dev	4,325	0	9,069
Count	34	2	6
West South Central			
Median	29,400	27,000	45,000
Mean	26,897	26,125	42,324
Std Dev	6,159	8,390	7,842
Count	20	4	40
East North Central			
Median	23,000	30,000	43,750
Mean	24,076	30,229	41,841
Std Dev	4,425	3,920	7,834
Count	106	14	44
East South Central			
Median	19,000	24,000	44,100
Mean	19,109	22,779	40,700
Std Dev	2,677	3,517	11,387
Count	7	7	3
Middle Atlantic			
Median	25,000	32,600	44,750
Mean	25,209	33,341	43,087
Std Dev	5,856	2,874	6,749
Count	96	15	40
South Atlantic			
Median	21,000	26,000	43,000
Mean	21,689	26,162	41,409
Std Dev	4,012	5,217	8,462
Count	74	13	34
New England			
Median	25,000	32,900	37,250
Mean	24,781	28,300	38,600
Std Dev	5,282	10,764	8,814
Count	32	3	10
TOTAL			
Median	23,000	30,000	44,000
Mean	23,526	28,863	41,626
Std Dev	5,170	5,539	8,079
Count	424	65	198

Table A-15

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and SEX
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN			
Median	35,400	37,000	50,000
Mean	34,204	39,288	49,017
Std Dev	3,641	7,883	4,930
Count	351	37	76
WOMEN			
Median	35,000	38,000	49,400
Mean	33,879	37,713	49,309
Std Dev	3,910	1,998	3,960
Count	166	14	12
TOTAL			
Median	35,220	37,200	50,000
Mean	34,101	38,855	49,055
Std Dev	3,727	6,803	4,796
Count	517	51	88

Table A-16

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and EMPLOYER
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	35,400	37,200	50,000
Mean	34,520	38,869	49,292
Std Dev	3,123	7,007	4,071
Count	482	48	76
COLLEGE OR UNIV			
Median	---	---	48,000
Mean	---	---	47,583
Std Dev	---	---	10,817
Count	0	0	6
FEDERAL GOVT			
Median	26,126	---	50,000
Mean	27,458	---	48,280
Std Dev	5,607	---	5,291
Count	17	0	5
MILITARY			
Median	25,000	---	---
Mean	24,000	---	---
Std Dev	3,606	---	---
Count	3	0	0
STATE OR LOCAL GOVT			
Median	28,000	---	---
Mean	25,123	---	---
Std Dev	6,180	---	---
Count	5	0	0
HOSPITAL OR LAB			
Median	36,500	39,450	---
Mean	36,500	39,450	---
Std Dev	0	1,485	---
Count	1	2	0
OTHER			
Median	32,000	37,000	44,400
Mean	33,297	37,000	44,400
Std Dev	3,401	0	0
Count	7	1	1
TOTAL			
Median	35,340	37,200	50,000
Mean	34,127	38,855	49,055
Std Dev	3,681	6,803	4,796
Count	515	51	88

Table A-17

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and EMPLOYER - MEN only
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	35,400	37,000	50,000
Mean	34,506	39,318	49,205
Std Dev	3,297	8,099	4,251
Count	334	35	67
COLLEGE OR UNIV			
Median	---	---	48,000
Mean	---	---	46,375
Std Dev	---	---	12,853
Count	0	0	4
FEDERAL GOVT			
Median	26,126	---	51,000
Mean	26,256	---	49,750
Std Dev	4,674	---	4,787
Count	6	0	4
MILITARY			
Median	25,000	---	---
Mean	24,000	---	---
Std Dev	3,606	---	---
Count	3	0	0
STATE OR LOCAL GOVT			
Median	28,000	---	---
Mean	28,168	---	---
Std Dev	292	---	---
Count	3	0	0
HOSPITAL OR LAB			
Median	36,500	40,500	---
Mean	36,500	40,500	---
Std Dev	0	0	---
Count	1	1	0
OTHER			
Median	31,000	37,000	44,400
Mean	32,213	37,000	44,400
Std Dev	3,349	0	0
Count	3	1	1
TOTAL			
Median	35,400	37,000	50,000
Mean	34,202	39,288	49,017
Std Dev	3,646	7,883	4,930
Count	350	37	76

Table A-18

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and EMPLOYER - WOMEN only
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	35,002	38,000	49,600
Mean	34,550	37,660	50,000
Std Dev	2,692	2,069	2,148
Count	148	13	9
COLLEGE OR UNIV			
Median	---	---	50,000
Mean	---	---	50,000
Std Dev	---	---	8,485
Count	0	0	2
FEDERAL GOVT			
Median	26,250	---	42,400
Mean	28,180	---	42,400
Std Dev	6,222	---	0
Count	11	0	1
STATE OR LOCAL GOVT			
Median	20,556	---	---
Mean	20,556	---	---
Std Dev	9,113	---	---
Count	2	0	0
HOSPITAL OR LAB			
Median	---	38,400	---
Mean	---	38,400	---
Std Dev	---	0	---
Count	0	1	0
OTHER			
Median	34,500	---	---
Mean	34,110	---	---
Std Dev	3,687	---	---
Count	4	0	0
TOTAL			
Median	35,000	38,000	49,400
Mean	33,966	37,713	49,309
Std Dev	3,764	1,998	3,960
Count	165	14	12

Table A-19

SALARIES of CHEMICAL ENGINEERS employed FULL-TIME in INDUSTRY
by DEGREE and TYPE OF INDUSTRY
1990 ACS Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
TYPE OF INDUSTRY			
NONMANUFACTURING			
Median	34,000	36,000	48,000
Mean	32,798	35,629	45,667
Std Dev	3,831	4,505	5,275
Count	64	7	10
BASIC CHEMS			
Median	35,500	36,600	50,400
Mean	35,332	37,300	50,832
Std Dev	1,492	1,887	1,275
Count	69	4	17
SPECIALTY CHEMS			
Median	35,400	37,700	49,900
Mean	35,101	39,550	50,533
Std Dev	2,459	5,390	2,709
Count	85	10	6
PETROLEUM			
Median	36,550	40,500	50,000
Mean	36,384	40,420	50,145
Std Dev	1,786	2,478	1,825
Count	79	5	11
PHARMACEUTICALS			
Median	35,400	36,250	51,000
Mean	33,245	36,597	47,500
Std Dev	4,510	1,848	9,883
Count	42	6	4
PLASTICS			
Median	35,400	40,000	50,350
Mean	34,846	46,700	50,363
Std Dev	2,709	17,546	3,275
Count	36	5	12
OTHER			
Median	34,800	36,494	48,950
Mean	33,566	37,944	48,147
Std Dev	3,155	4,609	4,323
Count	106	10	16
TOTAL			
Median	35,400	37,200	50,000
Mean	34,517	38,909	49,292
Std Dev	3,125	7,078	4,071
Count	481	47	76

Table A-20

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME in INDUSTRY by DEGREE and EMPLOYER SIZE
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
NUMBER OF EMPLOYEES			
LESS THAN 500			
Median	33,000	35,020	40,000
Mean	31,322	35,164	40,667
Std Dev	4,814	4,553	6,121
Count	43	5	7
500 TO 2,499			
Median	35,000	37,100	50,250
Mean	33,507	37,493	50,536
Std Dev	3,985	4,023	2,060
Count	88	10	10
2,500 TO 9,999			
Median	35,000	37,250	49,450
Mean	34,426	43,114	50,275
Std Dev	2,299	14,596	2,748
Count	78	8	6
10,000 TO 24,999			
Median	35,800	36,600	50,000
Mean	35,521	37,236	50,247
Std Dev	1,809	1,983	3,047
Count	72	5	17
24,000 OR MORE			
Median	35,500	37,300	50,000
Mean	35,342	39,194	49,838
Std Dev	2,182	4,364	2,999
Count	194	18	35
TOTAL			
Median	35,400	37,100	50,000
Mean	34,509	38,855	49,303
Std Dev	3,138	7,159	4,099
Count	475	46	75

Table A-21

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and WORK FUNCTION
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
WORK FUNCTION			
TEACHING			
Median	30,000	---	48,000
Mean	30,000	---	49,000
Std Dev	0	---	6,000
Count	1	0	4
MGMT OR ADMIN			
Median	32,000	36,500	---
Mean	31,235	36,500	---
Std Dev	5,311	0	---
Count	30	1	0
BASIC RESEARCH			
Median	34,650	37,200	50,000
Mean	33,413	37,200	49,571
Std Dev	2,893	0	3,609
Count	9	1	7
APPLIED RESEARCH			
Median	35,400	37,400	50,000
Mean	34,815	38,964	49,056
Std Dev	2,933	7,482	4,467
Count	214	33	72
PRODUCTION			
Median	35,220	38,000	55,000
Mean	34,404	39,700	55,000
Std Dev	3,476	5,545	0
Count	189	13	1
OTHER			
Median	34,750	36,000	45,500
Mean	32,719	35,333	46,700
Std Dev	4,521	7,024	10,480
Count	71	3	4
TOTAL			
Median	35,280	37,200	50,000
Mean	34,134	38,855	49,055
Std Dev	3,680	6,803	4,796
Count	514	51	88

Table A-22

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and GEOGRAPHIC REGION
1990 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
REGION			
Pacific			
Median	35,500	37,000	50,050
Mean	34,667	36,260	47,191
Std Dev	2,797	2,000	8,920
Count	50	7	10
Mountain			
Median	33,500	32,000	49,000
Mean	32,072	32,000	47,333
Std Dev	4,969	5,657	3,786
Count	13	2	3
West North Central			
Median	35,000	45,425	42,450
Mean	33,909	45,425	42,450
Std Dev	2,463	0	9,122
Count	22	1	2
West South Central			
Median	36,000	38,000	52,000
Mean	35,794	39,309	52,071
Std Dev	2,029	3,936	2,690
Count	126	11	16
East North Central			
Median	35,340	37,000	49,650
Mean	33,977	37,025	49,540
Std Dev	3,646	1,579	4,369
Count	71	11	12
East South Central			
Median	35,000	36,600	48,350
Mean	33,848	36,600	47,675
Std Dev	3,364	0	2,797
Count	17	1	4
Middle Atlantic			
Median	35,000	38,000	50,000
Mean	33,634	39,991	48,638
Std Dev	3,715	4,966	3,265
Count	91	11	22
South Atlantic			
Median	35,000	36,750	49,200
Mean	34,088	36,750	48,080
Std Dev	3,394	4,596	3,976
Count	87	2	15
New England			
Median	35,300	36,500	52,000
Mean	32,254	49,767	52,250
Std Dev	6,478	24,466	2,630
Count	18	3	4
TOTAL			
Median	35,400	37,200	50,000
Mean	34,348	38,821	49,055
Std Dev	3,447	6,936	4,796
Count	495	49	88

Table B-1a

CHEMISTRY GRADUATES
by EMPLOYMENT STATUS, SEX, and DEGREE
1990 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
FULL-TIME IN CHEMISTRY									
Count	353	330	683	78	64	142	230	79	309
Row Percent	51.7%	48.3%	100.0%	54.9%	45.1%	100.0%	74.4%	25.6%	100.0%
Column Percent	29.9%	37.2%	33.0%	37.9%	45.1%	40.8%	53.1%	51.3%	52.6%
FULL-TIME IN NON-CHEMISTRY									
Count	104	75	179	8	4	12	11	6	17
Row Percent	58.1%	41.9%	100.0%	66.7%	33.3%	100.0%	64.7%	35.3%	100.0%
Column Percent	8.8%	8.4%	8.7%	3.9%	2.8%	3.4%	2.5%	3.9%	2.9%
FELLOWSHIP									
Count	384	233	617	89	53	142	149	48	197
Row Percent	62.2%	37.8%	100.0%	62.7%	37.3%	100.0%	75.6%	24.4%	100.0%
Column Percent	32.6%	26.2%	29.9%	43.2%	37.3%	40.8%	34.4%	31.2%	33.6%
SEEKING EMPLOYMENT									
Count	110	107	217	11	13	24	41	18	59
Row Percent	50.7%	49.3%	100.0%	45.8%	54.2%	100.0%	69.5%	30.5%	100.0%
Column Percent	9.3%	12.0%	10.5%	5.3%	9.2%	6.9%	9.5%	11.7%	10.1%
NOT SEEKING EMPLOYMENT									
Count	228	143	371	20	8	28	2	3	5
Row Percent	61.5%	38.5%	100.0%	71.4%	28.6%	100.0%	40.0%	60.0%	100.0%
Column Percent	19.3%	16.1%	17.9%	9.7%	5.6%	8.0%	.5%	1.9%	.9%
TOTAL									
Count	1179	888	2067	206	142	348	433	154	587
Row Percent	57.0%	43.0%	100.0%	59.2%	40.8%	100.0%	73.8%	26.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-1b

CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990, SEX, and DEGREE
1990 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
PURSUE ADVANCED STUDIES IN FALL 90									
YES, FULL-TIME									
Count	738	439	1177	110	57	167	57	15	72
Row Percent	62.7%	37.3%	100.0%	65.9%	34.1%	100.0%	79.2%	20.8%	100.0%
Column Percent	55.0%	45.2%	50.9%	53.1%	39.9%	47.7%	13.6%	9.9%	12.6%
YES, PART-TIME									
Count	119	97	216	18	11	29	16	2	18
Row Percent	55.1%	44.9%	100.0%	62.1%	37.9%	100.0%	88.9%	11.1%	100.0%
Column Percent	8.9%	10.0%	9.3%	8.7%	7.7%	8.3%	3.8%	1.3%	3.2%
NO									
Count	484	436	920	79	75	154	346	134	480
Row Percent	52.6%	47.4%	100.0%	51.3%	48.7%	100.0%	72.1%	27.9%	100.0%
Column Percent	36.1%	44.9%	39.8%	38.2%	52.4%	44.0%	82.6%	88.7%	84.2%
TOTAL									
Count	1341	972	2313	207	143	350	419	151	570
Row Percent	58.0%	42.0%	100.0%	59.1%	40.9%	100.0%	73.5%	26.5%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-2a

BS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and CITIZENSHIP
1990 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY				
Count	637	29	14	4
Row Percent	93.1%	4.2%	2.0%	.6%
Column Percent	34.1%	25.4%	24.1%	16.0%
FULL-TIME IN NON-CHEMISTRY				
Count	163	11	4	1
Row Percent	91.1%	6.1%	2.2%	.6%
Column Percent	8.7%	9.6%	6.9%	4.0%
FELLOWSHIP				
Count	562	36	8	10
Row Percent	91.2%	5.8%	1.3%	1.6%
Column Percent	30.1%	31.6%	13.8%	40.0%
SEEKING EMPLOYMENT				
Count	194	10	12	1
Row Percent	89.4%	4.6%	5.5%	.5%
Column Percent	10.4%	8.8%	20.7%	4.0%
NOT SEEKING EMPLOYMENT				
Count	314	28	20	9
Row Percent	84.6%	7.5%	5.4%	2.4%
Column Percent	16.8%	24.6%	34.5%	36.0%
TOTAL				
Count	1870	114	58	25
Row Percent	90.5%	5.5%	2.8%	1.2%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-2a Continued

MS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and CITIZENSHIP
1990 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY				
Count	109	12	6	15
Row Percent	76.8%	8.5%	4.2%	10.6%
Column Percent	43.4%	85.7%	42.9%	22.7%
FULL-TIME IN NON-CHEMISTRY				
Count	10	1	0	1
Row Percent	83.3%	8.3%	.0%	8.3%
Column Percent	4.0%	7.1%	.0%	1.5%
FELLOWSHIP				
Count	96	0	3	42
Row Percent	68.1%	.0%	2.1%	29.8%
Column Percent	38.2%	.0%	21.4%	63.6%
SEEKING EMPLOYMENT				
Count	15	1	2	5
Row Percent	65.2%	4.3%	8.7%	21.7%
Column Percent	6.0%	7.1%	14.3%	7.6%
NOT SEEKING EMPLOYMENT				
Count	21	0	3	3
Row Percent	77.8%	.0%	11.1%	11.1%
Column Percent	8.4%	.0%	21.4%	4.5%
TOTAL				
Count	251	14	14	66
Row Percent	72.8%	4.1%	4.1%	19.1%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-2a Continued

PhD CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and CITIZENSHIP
1990 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY				
Count	244	7	16	44
Row Percent	78.5%	2.3%	5.1%	14.1%
Column Percent	57.3%	58.3%	55.2%	36.1%
FULL-TIME IN NON-CHEMISTRY				
Count	13	0	2	2
Row Percent	76.5%	.0%	11.8%	11.8%
Column Percent	3.1%	.0%	6.9%	1.6%
FELLOWSHIP				
Count	132	3	7	55
Row Percent	67.0%	1.5%	3.6%	27.9%
Column Percent	31.0%	25.0%	24.1%	45.1%
SEEKING EMPLOYMENT				
Count	35	1	3	20
Row Percent	59.3%	1.7%	5.1%	33.9%
Column Percent	8.2%	8.3%	10.3%	16.4%
NOT SEEKING EMPLOYMENT				
Count	2	1	1	1
Row Percent	40.0%	20.0%	20.0%	20.0%
Column Percent	.5%	8.3%	3.4%	.8%
TOTAL				
Count	426	12	29	122
Row Percent	72.3%	2.0%	4.9%	20.7%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-2b

BS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990 and CITIZENSHIP
1990 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 90				
YES, FULL-TIME				
Count	1048	75	35	18
Row Percent	89.1%	6.4%	3.0%	1.5%
Column Percent	50.1%	59.5%	51.5%	64.3%
YES, PART-TIME				
Count	189	15	10	3
Row Percent	87.1%	6.9%	4.6%	1.4%
Column Percent	9.0%	11.9%	14.7%	10.7%
NO				
Count	855	36	23	7
Row Percent	92.8%	3.9%	2.5%	.8%
Column Percent	40.9%	28.6%	33.8%	25.0%
TOTAL				
Count	2092	126	68	28
Row Percent	90.4%	5.4%	2.9%	1.2%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-2b Continued

MS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990 and CITIZENSHIP
1990 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 90				
YES, FULL-TIME				
Count	116	1	4	43
Row Percent	70.7%	.6%	2.4%	26.2%
Column Percent	44.8%	7.1%	28.6%	71.7%
YES, PART-TIME				
Count	21	2	0	6
Row Percent	72.4%	6.9%	.0%	20.7%
Column Percent	8.1%	14.3%	.0%	10.0%
NO				
Count	122	11	10	11
Row Percent	79.2%	7.1%	6.5%	7.1%
Column Percent	47.1%	78.6%	71.4%	18.3%
TOTAL				
Count	259	14	14	60
Row Percent	74.6%	4.0%	4.0%	17.3%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-2b Continued

PhD CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990 and CITIZENSHIP
1990 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 90				
YES, FULL-TIME				
Count	48	2	2	20
Row Percent	66.7%	2.8%	2.8%	27.8%
Column Percent	11.4%	16.7%	6.9%	18.2%
YES, PART-TIME				
Count	13	0	3	2
Row Percent	72.2%	.0%	16.7%	11.1%
Column Percent	3.1%	.0%	10.3%	1.8%
NO				
Count	360	10	24	88
Row Percent	74.7%	2.1%	5.0%	18.3%
Column Percent	85.5%	83.3%	82.8%	80.0%
TOTAL				
Count	421	12	29	110
Row Percent	73.6%	2.1%	5.1%	19.2%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-3a

BS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
EMPLOYMENT STATUS								
FULL-TIME IN CHEMISTRY								
Count	3	10	2	21	23	14	605	4
Row Percent	.4%	1.5%	.3%	3.1%	3.4%	2.1%	88.7%	.6%
Column Percent	27.3%	18.2%	9.5%	26.9%	33.3%	29.8%	34.4%	21.1%
FULL-TIME IN NON-CHEMISTRY								
Count	1	4	0	8	9	3	151	1
Row Percent	.6%	2.3%	.0%	4.5%	5.1%	1.7%	85.3%	.6%
Column Percent	9.1%	7.3%	.0%	10.3%	13.0%	6.4%	8.6%	5.3%
FELLOWSHIP								
Count	5	23	6	21	9	9	534	6
Row Percent	.8%	3.8%	1.0%	3.4%	1.5%	1.5%	87.1%	1.0%
Column Percent	45.5%	41.8%	28.6%	26.9%	13.0%	19.1%	30.4%	31.6%
SEEKING EMPLOYMENT								
Count	1	2	1	8	17	14	169	3
Row Percent	.5%	.9%	.5%	3.7%	7.9%	6.5%	78.6%	1.4%
Column Percent	9.1%	3.6%	4.8%	10.3%	24.6%	29.8%	9.6%	15.8%
NOT SEEKING EMPLOYMENT								
Count	1	16	12	20	11	7	298	5
Row Percent	.3%	4.3%	3.2%	5.4%	3.0%	1.9%	80.5%	1.4%
Column Percent	9.1%	29.1%	57.1%	25.6%	15.9%	14.9%	17.0%	26.3%
TOTAL								
Count	11	55	21	78	69	47	1757	19
Row Percent	.5%	2.7%	1.0%	3.8%	3.4%	2.3%	85.4%	.9%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-3a Continued

MS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
EMPLOYMENT STATUS								
FULL-TIME IN CHEMISTRY								
Count	0	19	3	6	3	2	109	1
Row Percent	.0%	13.3%	2.1%	4.2%	2.1%	1.4%	76.2%	.7%
Column Percent	.0%	39.6%	23.1%	31.6%	60.0%	28.6%	44.1%	16.7%
FULL-TIME IN NON-CHEMISTRY								
Count	0	0	1	1	0	1	9	0
Row Percent	.0%	.0%	8.3%	8.3%	.0%	8.3%	75.0%	.0%
Column Percent	.0%	.0%	7.7%	5.3%	.0%	14.3%	3.6%	.0%
FELLOWSHIP								
Count	1	23	8	7	1	2	93	4
Row Percent	.7%	16.5%	5.8%	5.0%	.7%	1.4%	66.9%	2.9%
Column Percent	100.0%	47.9%	61.5%	36.8%	20.0%	28.6%	37.7%	66.7%
SEEKING EMPLOYMENT								
Count	0	4	1	2	0	1	16	0
Row Percent	.0%	16.7%	4.2%	8.3%	.0%	4.2%	66.7%	.0%
Column Percent	.0%	8.3%	7.7%	10.5%	.0%	14.3%	6.5%	.0%
NOT SEEKING EMPLOYMENT								
Count	0	2	0	3	1	1	20	1
Row Percent	.0%	7.1%	.0%	10.7%	3.6%	3.6%	71.4%	3.6%
Column Percent	.0%	4.2%	.0%	15.8%	20.0%	14.3%	8.1%	16.7%
TOTAL								
Count	1	48	13	19	5	7	247	6
Row Percent	.3%	13.9%	3.8%	5.5%	1.4%	2.0%	71.4%	1.7%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-3a Continued

PhD CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
EMPLOYMENT STATUS								
FULL-TIME IN CHEMISTRY								
Count	0	32	5	17	5	10	239	2
Row Percent	.0%	10.3%	1.6%	5.5%	1.6%	3.2%	77.1%	.6%
Column Percent	.0%	39.5%	23.8%	50.0%	50.0%	58.8%	56.9%	66.7%
FULL-TIME IN NON-CHEMISTRY								
Count	0	0	2	1	0	1	13	0
Row Percent	.0%	.0%	11.8%	5.9%	.0%	5.9%	76.5%	.0%
Column Percent	.0%	.0%	9.5%	2.9%	.0%	5.9%	3.1%	.0%
FELLOWSHIP								
Count	0	35	12	11	4	5	129	0
Row Percent	.0%	17.9%	6.1%	5.6%	2.0%	2.6%	65.8%	.0%
Column Percent	.0%	43.2%	57.1%	32.4%	40.0%	29.4%	30.7%	.0%
SEEKING EMPLOYMENT								
Count	0	13	2	5	1	1	35	1
Row Percent	.0%	22.4%	3.4%	8.6%	1.7%	1.7%	60.3%	1.7%
Column Percent	.0%	16.0%	9.5%	14.7%	10.0%	5.9%	8.3%	33.3%
NOT SEEKING EMPLOYMENT								
Count	0	1	0	0	0	0	4	0
Row Percent	.0%	20.0%	.0%	.0%	.0%	.0%	80.0%	.0%
Column Percent	.0%	1.2%	.0%	.0%	.0%	.0%	1.0%	.0%
TOTAL								
Count	0	81	21	34	10	17	420	3
Row Percent	.0%	13.8%	3.6%	5.8%	1.7%	2.9%	71.7%	.5%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-3b

BS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990 and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 90								
YES, FULL-TIME								
Count	5	47	20	54	34	20	979	11
Row Percent	.4%	4.0%	1.7%	4.6%	2.9%	1.7%	83.7%	.9%
Column Percent	45.5%	69.1%	83.3%	58.7%	43.0%	39.2%	50.1%	50.0%
YES, PART-TIME								
Count	0	8	1	8	9	4	179	5
Row Percent	.0%	3.7%	.5%	3.7%	4.2%	1.9%	83.6%	2.3%
Column Percent	.0%	11.8%	4.2%	8.7%	11.4%	7.8%	9.2%	22.7%
NO								
Count	6	13	3	30	36	27	797	6
Row Percent	.7%	1.4%	.3%	3.3%	3.9%	2.9%	86.8%	.7%
Column Percent	54.5%	19.1%	12.5%	32.6%	45.6%	52.9%	40.8%	27.3%
TOTAL								
Count	11	68	24	92	79	51	1955	22
Row Percent	.5%	3.0%	1.0%	4.0%	3.4%	2.2%	84.9%	1.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-3b Continued

MS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990 and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 90								
YES, FULL-TIME								
Count	1	25	6	10	4	2	110	5
Row Percent	.6%	15.3%	3.7%	6.1%	2.5%	1.2%	67.5%	3.1%
Column Percent	100.0%	55.6%	54.5%	55.6%	66.7%	28.6%	43.7%	71.4%
YES, PART-TIME								
Count	0	6	0	1	0	1	21	0
Row Percent	.0%	20.7%	.0%	3.4%	.0%	3.4%	72.4%	.0%
Column Percent	.0%	13.3%	.0%	5.6%	.0%	14.3%	8.3%	.0%
NO								
Count	0	14	5	7	2	4	121	2
Row Percent	.0%	9.0%	3.2%	4.5%	1.3%	2.6%	78.1%	1.3%
Column Percent	.0%	31.1%	45.5%	38.9%	33.3%	57.1%	48.0%	28.6%
TOTAL								
Count	1	45	11	18	6	7	252	7
Row Percent	.3%	13.0%	3.2%	5.2%	1.7%	2.0%	72.6%	2.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-3b Continued

PhD CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990 and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 90								
YES, FULL-TIME								
Count	0	11	3	5	2	4	47	0
Row Percent	.0%	15.3%	4.2%	6.9%	2.8%	5.6%	65.3%	.0%
Column Percent	.0%	15.3%	15.8%	14.7%	20.0%	28.6%	11.2%	.0%
YES, PART-TIME								
Count	0	1	0	2	1	0	14	0
Row Percent	.0%	5.6%	.0%	11.1%	5.6%	.0%	77.8%	.0%
Column Percent	.0%	1.4%	.0%	5.9%	10.0%	.0%	3.3%	.0%
NO								
Count	0	60	16	27	7	10	357	3
Row Percent	.0%	12.5%	3.3%	5.6%	1.5%	2.1%	74.4%	.6%
Column Percent	.0%	83.3%	84.2%	79.4%	70.0%	71.4%	85.4%	100.0%
TOTAL								
Count	0	72	19	34	10	14	418	3
Row Percent	.0%	12.6%	3.3%	6.0%	1.8%	2.5%	73.3%	.5%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-4a

BS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and CERTIFICATION
1990 Starting Salary Survey

	CURRICULUM APPROVED?	
	NO	YES
EMPLOYMENT STATUS		
FULL-TIME IN CHEMISTRY		
Count	327	357
Row Percent	47.8%	52.2%
Column Percent	32.6%	33.6%
FULL-TIME IN NON-CHEMISTRY		
Count	109	70
Row Percent	60.9%	39.1%
Column Percent	10.9%	6.6%
FELLOWSHIP		
Count	214	403
Row Percent	34.7%	65.3%
Column Percent	21.3%	37.9%
SEEKING EMPLOYMENT		
Count	120	97
Row Percent	55.3%	44.7%
Column Percent	12.0%	9.1%
NOT SEEKING EMPLOYMENT		
Count	234	137
Row Percent	63.1%	36.9%
Column Percent	23.3%	12.9%
TOTAL		
Count	1004	1064
Row Percent	48.5%	51.5%
Column Percent	100.0%	100.0%

Table B-4b

BS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES AND CERTIFICATION
1990 Starting Salary Survey

	CURRICULUM APPROVED?	
	NO	YES
PURSUE ADVANCED STUDIES IN FALL 90		
YES, FULL-TIME		
Count	573	604
Row Percent	48.7%	51.3%
Column Percent	49.4%	52.3%
YES, PART-TIME		
Count	120	97
Row Percent	55.3%	44.7%
Column Percent	10.3%	8.4%
NO		
Count	467	454
Row Percent	50.7%	49.3%
Column Percent	40.3%	39.3%
TOTAL		
Count	1160	1155
Row Percent	50.1%	49.9%
Column Percent	100.0%	100.0%

Table B-5

MASTERS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and DEGREE SPECIALTY
1990 Starting Salary Survey

	EMPLOYMENT STATUS					TOTAL
	FT IN CHEM	FT IN NONCHEM	FELLOW-SHIP	SEEKING EMPL	NOT SEEK EMPL	
FIELD OF HIGHEST DEGREE						
BIOCHEMISTRY						
Count	13	3	13	2	8	39
Row Percent	33.3%	7.7%	33.3%	5.1%	20.5%	100.0%
Column Percent	9.1%	25.0%	9.2%	8.0%	28.6%	11.1%
GENERAL CHEM						
Count	14	0	3	3	3	23
Row Percent	60.9%	.0%	13.0%	13.0%	13.0%	100.0%
Column Percent	9.8%	.0%	2.1%	12.0%	10.7%	6.6%
ANALYTICAL CHEM						
Count	48	3	14	3	4	72
Row Percent	66.7%	4.2%	19.4%	4.2%	5.6%	100.0%
Column Percent	33.6%	25.0%	9.9%	12.0%	14.3%	20.6%
INORGANIC CHEM						
Count	8	1	32	3	3	47
Row Percent	17.0%	2.1%	68.1%	6.4%	6.4%	100.0%
Column Percent	5.6%	8.3%	22.5%	12.0%	10.7%	13.4%
ORGANIC CHEM						
Count	43	2	46	6	4	101
Row Percent	42.6%	2.0%	45.5%	5.9%	4.0%	100.0%
Column Percent	30.1%	16.7%	32.4%	24.0%	14.3%	28.9%
PHYSICAL CHEM						
Count	9	1	29	7	4	50
Row Percent	18.0%	2.0%	58.0%	14.0%	8.0%	100.0%
Column Percent	6.3%	8.3%	20.4%	28.0%	14.3%	14.3%
POLYMER CHEM						
Count	6	1	4	1	1	13
Row Percent	46.2%	7.7%	30.8%	7.7%	7.7%	100.0%
Column Percent	4.2%	8.3%	2.8%	4.0%	3.6%	3.7%
OTHER CHEM						
Count	2	1	1	0	1	5
Row Percent	40.0%	20.0%	20.0%	.0%	20.0%	100.0%
Column Percent	1.4%	8.3%	.7%	.0%	3.6%	1.4%
TOTAL						
Count	143	12	142	25	28	350
Row Percent	40.9%	3.4%	40.6%	7.1%	8.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-6

PHD CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and DEGREE SPECIALTY
1990 Starting Salary Survey

	EMPLOYMENT STATUS					TOTAL
	FT IN CHEM	FT IN NONCHEM	FELLOW-SHIP	SEEKING EMPL	NOT SEEK EMPL	
FIELD OF HIGHEST DEGREE						
BIOCHEMISTRY						
Count	10	1	27	1	1	40
Row Percent	25.0%	2.5%	67.5%	2.5%	2.5%	100.0%
Column Percent	3.2%	5.9%	13.7%	1.7%	20.0%	6.8%
GENERAL CHEM						
Count	3	0	2	0	0	5
Row Percent	60.0%	.0%	40.0%	.0%	.0%	100.0%
Column Percent	1.0%	.0%	1.0%	.0%	.0%	.8%
ANALYTICAL CHEM						
Count	85	4	26	13	0	128
Row Percent	66.4%	3.1%	20.3%	10.2%	.0%	100.0%
Column Percent	27.3%	23.5%	13.2%	22.0%	.0%	21.7%
INORGANIC CHEM						
Count	52	1	29	14	1	97
Row Percent	53.6%	1.0%	29.9%	14.4%	1.0%	100.0%
Column Percent	16.7%	5.9%	14.7%	23.7%	20.0%	16.5%
ORGANIC CHEM						
Count	88	6	61	11	1	167
Row Percent	52.7%	3.6%	36.5%	6.6%	.6%	100.0%
Column Percent	28.3%	35.3%	31.0%	18.6%	20.0%	28.4%
PHYSICAL CHEM						
Count	56	4	45	18	2	125
Row Percent	44.8%	3.2%	36.0%	14.4%	1.6%	100.0%
Column Percent	18.0%	23.5%	22.8%	30.5%	40.0%	21.2%
POLYMER CHEM						
Count	16	0	3	1	0	20
Row Percent	80.0%	.0%	15.0%	5.0%	.0%	100.0%
Column Percent	5.1%	.0%	1.5%	1.7%	.0%	3.4%
OTHER CHEM						
Count	1	1	4	1	0	7
Row Percent	14.3%	14.3%	57.1%	14.3%	.0%	100.0%
Column Percent	.3%	5.9%	2.0%	1.7%	.0%	1.2%
TOTAL						
Count	311	17	197	59	5	589
Row Percent	52.8%	2.9%	33.4%	10.0%	.8%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-7a

CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS, SEX, and DEGREE
1990 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
FULL-TIME IN CHEMISTRY									
Count	535	253	788	78	27	105	121	20	141
Row Percent	67.9%	32.1%	100.0%	74.3%	25.7%	100.0%	85.8%	14.2%	100.0%
Column Percent	68.1%	70.5%	68.8%	48.1%	51.9%	49.1%	80.1%	87.0%	81.0%
FULL-TIME IN NON-CHEMISTRY									
Count	66	26	92	7	1	8	7	0	7
Row Percent	71.7%	28.3%	100.0%	87.5%	12.5%	100.0%	100.0%	.0%	100.0%
Column Percent	8.4%	7.2%	8.0%	4.3%	1.9%	3.7%	4.6%	.0%	4.0%
FELLOWSHIP									
Count	106	40	146	52	21	73	16	1	17
Row Percent	72.6%	27.4%	100.0%	71.2%	28.8%	100.0%	94.1%	5.9%	100.0%
Column Percent	13.5%	11.1%	12.8%	32.1%	40.4%	34.1%	10.6%	4.3%	9.8%
SEEKING EMPLOYMENT									
Count	40	20	60	15	0	15	7	2	9
Row Percent	66.7%	33.3%	100.0%	100.0%	.0%	100.0%	77.8%	22.2%	100.0%
Column Percent	5.1%	5.6%	5.2%	9.3%	.0%	7.0%	4.6%	8.7%	5.2%
NOT SEEKING EMPLOYMENT									
Count	39	20	59	10	3	13	0	0	0
Row Percent	66.1%	33.9%	100.0%	76.9%	23.1%	100.0%	.0%	.0%	.0%
Column Percent	5.0%	5.6%	5.2%	6.2%	5.8%	6.1%	.0%	.0%	.0%
TOTAL									
Count	786	359	1145	162	52	214	151	23	174
Row Percent	68.6%	31.4%	100.0%	75.7%	24.3%	100.0%	86.8%	13.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-7b

CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990, SEX, and DEGREE
1990 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
PURSUE ADVANCED STUDIES IN FALL 90									
YES, FULL-TIME									
Count	162	64	226	71	23	94	4	0	4
Row Percent	71.7%	28.3%	100.0%	75.5%	24.5%	100.0%	100.0%	.0%	100.0%
Column Pereent	20.1%	17.6%	19.3%	43.8%	45.1%	44.1%	2.7%	.0%	2.4%
YES, PART-TIME									
Count	87	40	127	8	2	10	4	0	4
Row Percent	68.5%	31.5%	100.0%	80.0%	20.0%	100.0%	100.0%	.0%	100.0%
Column Percent	10.8%	11.0%	10.9%	4.9%	3.9%	4.7%	2.7%	.0%	2.4%
NO									
Count	556	260	816	83	26	109	141	21	162
Row Percent	68.1%	31.9%	100.0%	76.1%	23.9%	100.0%	87.0%	13.0%	100.0%
Column Percent	69.1%	71.4%	69.8%	51.2%	51.0%	51.2%	94.6%	100.0%	95.3%
TOTAL									
Count	805	364	1169	162	51	213	149	21	170
Row Percent	68.9%	31.1%	100.0%	76.1%	23.9%	100.0%	87.6%	12.4%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-8a

BS CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and CITIZENSHIP
1990 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
FULL-TIME IN CHEMISTRY				
Count	734	33	16	2
Row Percent	93.5%	4.2%	2.0%	.3%
Column Percent	69.8%	64.7%	57.1%	18.2%
FULL-TIME IN NON-CHEMISTRY				
Count	86	3	3	0
Row Percent	93.5%	3.3%	3.3%	.0%
Column Percent	8.2%	5.9%	10.7%	.0%
FELLOWSHIP				
Count	129	6	3	8
Row Percent	88.4%	4.1%	2.1%	5.5%
Column Percent	12.3%	11.8%	10.7%	72.7%
SEEKING EMPLOYMENT				
Count	46	7	5	1
Row Percent	78.0%	11.9%	8.5%	1.7%
Column Percent	4.4%	13.7%	17.9%	9.1%
NOT SEEKING EMPLOYMENT				
Count	56	2	1	0
Row Percent	94.9%	3.4%	1.7%	.0%
Column Percent	5.3%	3.9%	3.6%	.0%
TOTAL				
Count	1051	51	28	11
Row Percent	92.1%	4.5%	2.5%	1.0%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-8a (Continued)

MS CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and CITIZENSHIP
1990 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
FULL-TIME IN CHEMISTRY				
Count	85	2	9	9
Row Percent	81.0%	1.9%	8.6%	8.6%
Column Percent	62.0%	33.3%	75.0%	15.0%
FULL-TIME IN NON-CHEMISTRY				
Count	4	1	0	3
Row Percent	50.0%	12.5%	.0%	37.5%
Column Percent	2.9%	16.7%	.0%	5.0%
FELLOWSHIP				
Count	39	0	2	32
Row Percent	53.4%	.0%	2.7%	43.8%
Column Percent	28.5%	.0%	16.7%	53.3%
SEEKING EMPLOYMENT				
Count	3	2	1	9
Row Percent	20.0%	13.3%	6.7%	60.0%
Column Percent	2.2%	33.3%	8.3%	15.0%
NOT SEEKING EMPLOYMENT				
Count	6	1	0	7
Row Percent	42.9%	7.1%	.0%	50.0%
Column Percent	4.4%	16.7%	.0%	11.7%
TOTAL				
Count	137	6	12	60
Row Percent	63.7%	2.8%	5.6%	27.9%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-8a (Continued)

PhD CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and CITIZENSHIP
1990 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
FULL-TIME IN CHEMISTRY				
Count	90	15	6	30
Row Percent	63.8%	10.6%	4.3%	21.3%
Column Percent	81.8%	93.8%	100.0%	71.4%
FULL-TIME IN NON-CHEMISTRY				
Count	5	0	0	2
Row Percent	71.4%	.0%	.0%	28.6%
Column Percent	4.5%	.0%	.0%	4.8%
FELLOWSHIP				
Count	10	1	0	6
Row Percent	58.8%	5.9%	.0%	35.3%
Column Percent	9.1%	6.3%	.0%	14.3%
SEEKING EMPLOYMENT				
Count	5	0	0	4
Row Percent	55.6%	.0%	.0%	44.4%
Column Percent	4.5%	.0%	.0%	9.5%
NOT SEEKING EMPLOYMENT				
Count	0	0	0	0
Row Percent	.0%	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%	.0%
TOTAL				
Count	110	16	6	42
Row Percent	63.2%	9.2%	3.4%	24.1%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-8b

BS CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990 and CITIZENSHIP
1990 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 90				
YES, FULL-TIME				
Count	200	11	5	10
Row Percent	88.5%	4.9%	2.2%	4.4%
Column Percent	18.7%	21.2%	16.7%	83.3%
YES, PART-TIME				
Count	116	5	5	0
Row Percent	92.1%	4.0%	4.0%	.0%
Column Percent	10.8%	9.6%	16.7%	.0%
NO				
Count	755	36	20	2
Row Percent	92.9%	4.4%	2.5%	.2%
Column Percent	70.5%	69.2%	66.7%	16.7%
TOTAL				
Count	1071	52	30	12
Row Percent	91.9%	4.5%	2.6%	1.0%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-8b Continued

MS CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990 and CITIZENSHIP
1990 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 90				
YES, FULL-TIME				
Count	45	2	3	45
Row Percent	47.4%	2.1%	3.2%	47.4%
Column Percent	32.8%	33.3%	25.0%	76.3%
YES, PART-TIME				
Count	6	2	0	2
Row Percent	60.0%	20.0%	.0%	20.0%
Column Percent	4.4%	33.3%	.0%	3.4%
NO				
Count	86	2	9	12
Row Percent	78.9%	1.8%	8.3%	11.0%
Column Percent	62.8%	33.3%	75.0%	20.3%
TOTAL				
Count	137	6	12	59
Row Percent	64.0%	2.8%	5.6%	27.6%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-8b Continued

PhD CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990 and CITIZENSHIP
1990 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 90				
YES, FULL-TIME				
Count	2	1	0	1
Row Percent	50.0%	25.0%	.0%	25.0%
Column Percent	1.9%	6.3%	.0%	2.5%
YES, PART-TIME				
Count	2	0	0	2
Row Percent	50.0%	.0%	.0%	50.0%
Column Percent	1.9%	.0%	.0%	5.0%
NO				
Count	103	15	7	37
Row Percent	63.6%	9.3%	4.3%	22.8%
Column Percent	96.3%	93.8%	100.0%	92.5%
TOTAL				
Count	107	16	7	40
Row Percent	62.9%	9.4%	4.1%	23.5%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-9a

BS CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
FULL-TIME IN CHEMISTRY								
Count	8	14	4	26	12	45	673	2
Row Percent	1.0%	1.8%	.5%	3.3%	1.5%	5.7%	85.8%	.3%
Column Percent	80.0%	43.8%	50.0%	60.5%	57.1%	76.3%	70.0%	66.7%
FULL-TIME IN NON-CHEMISTRY								
Count	1	2	1	6	3	2	77	0
Row Percent	1.1%	2.2%	1.1%	6.5%	3.3%	2.2%	83.7%	.0%
Column Percent	10.0%	6.3%	12.5%	14.0%	14.3%	3.4%	8.0%	.0%
FELLOWSHIP								
Count	1	8	3	5	4	6	117	0
Row Percent	.7%	5.6%	2.1%	3.5%	2.8%	4.2%	81.3%	.0%
Column Percent	10.0%	25.0%	37.5%	11.6%	19.0%	10.2%	12.2%	.0%
SEEKING EMPLOYMENT								
Count	0	6	0	4	2	6	42	0
Row Percent	.0%	10.0%	.0%	6.7%	3.3%	10.0%	70.0%	.0%
Column Percent	.0%	18.8%	.0%	9.3%	9.5%	10.2%	4.4%	.0%
NOT SEEKING EMPLOYMENT								
Count	0	2	0	2	0	0	53	1
Row Percent	.0%	3.4%	.0%	3.4%	.0%	.0%	91.4%	1.7%
Column Percent	.0%	6.3%	.0%	4.7%	.0%	.0%	5.5%	33.3%
TOTAL								
Count	10	32	8	43	21	59	962	3
Row Percent	.9%	2.8%	.7%	3.8%	1.8%	5.2%	84.5%	.3%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-9a Continued

MS CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
FULL-TIME IN CHEMISTRY								
Count	3	6	5	0	2	5	81	2
Row Percent	2.9%	5.8%	4.8%	.0%	1.9%	4.8%	77.9%	1.9%
Column Percent	75.0%	25.0%	27.8%	.0%	33.3%	71.4%	58.7%	40.0%
FULL-TIME IN NON-CHEMISTRY								
Count	0	2	1	0	1	0	4	0
Row Percent	.0%	25.0%	12.5%	.0%	12.5%	.0%	50.0%	.0%
Column Percent	.0%	8.3%	5.6%	.0%	16.7%	.0%	2.9%	.0%
FELLOWSHIP								
Count	1	10	7	10	3	1	40	1
Row Percent	1.4%	13.7%	9.6%	13.7%	4.1%	1.4%	54.8%	1.4%
Column Percent	25.0%	41.7%	38.9%	83.3%	50.0%	14.3%	29.0%	20.0%
SEEKING EMPLOYMENT								
Count	0	3	3	1	0	1	6	1
Row Percent	.0%	20.0%	20.0%	6.7%	.0%	6.7%	40.0%	6.7%
Column Percent	.0%	12.5%	16.7%	8.3%	.0%	14.3%	4.3%	20.0%
NOT SEEKING EMPLOYMENT								
Count	0	3	2	1	0	0	7	1
Row Percent	.0%	21.4%	14.3%	7.1%	.0%	.0%	50.0%	7.1%
Column Percent	.0%	12.5%	11.1%	8.3%	.0%	.0%	5.1%	20.0%
TOTAL								
Count	4	24	18	12	6	7	138	5
Row Percent	1.9%	11.2%	8.4%	5.6%	2.8%	3.3%	64.5%	2.3%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-9a Continued

PhD CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
FULL-TIME IN CHEMISTRY								
Count	0	15	9	9	2	5	98	2
Row Percent	.0%	10.7%	6.4%	6.4%	1.4%	3.6%	70.0%	1.4%
Column Percent	.0%	71.4%	90.0%	64.3%	100.0%	100.0%	83.1%	100.0%
FULL-TIME IN NON-CHEMISTRY								
Count	0	2	0	0	0	0	5	0
Row Percent	.0%	28.6%	.0%	.0%	.0%	.0%	71.4%	.0%
Column Percent	.0%	9.5%	.0%	.0%	.0%	.0%	4.2%	.0%
FELLOWSHIP								
Count	0	2	1	4	0	0	9	0
Row Percent	.0%	12.5%	6.3%	25.0%	.0%	.0%	56.3%	.0%
Column Percent	.0%	9.5%	10.0%	28.6%	.0%	.0%	7.6%	.0%
SEEKING EMPLOYMENT								
Count	0	2	0	1	0	0	6	0
Row Percent	.0%	22.2%	.0%	11.1%	.0%	.0%	66.7%	.0%
Column Percent	.0%	9.5%	.0%	7.1%	.0%	.0%	5.1%	.0%
NOT SEEKING EMPLOYMENT								
Count	0	0	0	0	0	0	0	0
Row Percent	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%
TOTAL								
Count	0	21	10	14	2	5	118	2
Row Percent	.0%	12.2%	5.8%	8.1%	1.2%	2.9%	68.6%	1.2%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-9b

BS CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990 and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 90								
YES, FULL-TIME								
Count	2	12	3	12	5	9	179	1
Row Percent	.9%	5.4%	1.3%	5.4%	2.2%	4.0%	80.3%	.4%
Column Percent	18.2%	36.4%	37.5%	27.3%	22.7%	14.8%	18.3%	33.3%
YES, PART-TIME								
Count	3	1	1	6	1	7	107	1
Row Percent	2.4%	.8%	.8%	4.7%	.8%	5.5%	84.3%	.8%
Column Percent	27.3%	3.0%	12.5%	13.6%	4.5%	11.5%	10.9%	33.3%
NO								
Count	6	20	4	26	16	45	693	1
Row Percent	.7%	2.5%	.5%	3.2%	2.0%	5.5%	85.5%	.1%
Column Percent	54.5%	60.6%	50.0%	59.1%	72.7%	73.8%	70.8%	33.3%
TOTAL								
Count	11	33	8	44	22	61	979	3
Row Percent	.9%	2.8%	.7%	3.8%	1.9%	5.3%	84.3%	.3%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-9b (Continued)

MS CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990 and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 90								
YES, FULL-TIME								
Count	1	14	13	12	2	2	48	3
Row Percent	1.1%	14.7%	13.7%	12.6%	2.1%	2.1%	50.5%	3.2%
Column Percent	25.0%	60.9%	72.2%	92.3%	40.0%	28.6%	34.8%	60.0%
YES, PART-TIME								
Count	0	1	1	0	1	1	6	0
Row Percent	.0%	10.0%	10.0%	.0%	10.0%	10.0%	60.0%	.0%
Column Percent	.0%	4.3%	5.6%	.0%	20.0%	14.3%	4.3%	.0%
NO								
Count	3	8	4	1	2	4	84	2
Row Percent	2.8%	7.4%	3.7%	.9%	1.9%	3.7%	77.8%	1.9%
Column Percent	75.0%	34.8%	22.2%	7.7%	40.0%	57.1%	60.9%	40.0%
TOTAL								
Count	4	23	18	13	5	7	138	5
Row Percent	1.9%	10.8%	8.5%	6.1%	2.3%	3.3%	64.8%	2.3%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-9b (Continued)

PhD CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1990 and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 90								
YES, FULL-TIME								
Count	0	0	0	1	0	0	2	1
Row Percent	.0%	.0%	.0%	25.0%	.0%	.0%	50.0%	25.0%
Column Percent	.0%	.0%	.0%	8.3%	.0%	.0%	1.7%	50.0%
YES, PART-TIME								
Count	0	1	0	0	0	0	3	0
Row Percent	.0%	25.0%	.0%	.0%	.0%	.0%	75.0%	.0%
Column Percent	.0%	4.5%	.0%	.0%	.0%	.0%	2.6%	.0%
NO								
Count	0	21	10	11	2	5	110	1
Row Percent	.0%	13.1%	6.3%	6.9%	1.3%	3.1%	68.8%	.6%
Column Percent	.0%	95.5%	100.0%	91.7%	100.0%	100.0%	95.7%	50.0%
TOTAL								
Count	0	22	10	12	2	5	115	2
Row Percent	.0%	13.1%	6.0%	7.1%	1.2%	3.0%	68.5%	1.2%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table C-1

BS CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1990
by FIELD OF ADVANCED STUDY and SEX
1990 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	55	36	91
Row Percent	60.4%	39.6%	100.0%
Column Percent	46.2%	37.5%	42.3%
PHYSICAL SCIENCE	8	3	11
Row Percent	72.7%	27.3%	100.0%
Column Percent	6.7%	3.1%	5.1%
CHEM ENG	6	6	12
Row Percent	50.0%	50.0%	100.0%
Column Percent	5.0%	6.3%	5.6%
OTHER ENG	2	3	5
Row Percent	40.0%	60.0%	100.0%
Column Percent	1.7%	3.1%	2.3%
BIOCHEMISTRY	7	9	16
Row Percent	43.8%	56.3%	100.0%
Column Percent	5.9%	9.4%	7.4%
LIFE SCIENCE	7	1	8
Row Percent	87.5%	12.5%	100.0%
Column Percent	5.9%	1.0%	3.7%
MEDICINE	0	5	5
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	5.2%	2.3%
DENTISTRY	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	.8%	.0%	.5%
PHARMACY	4	4	8
Row Percent	50.0%	50.0%	100.0%
Column Percent	3.4%	4.2%	3.7%
BUSINESS	15	9	24
Row Percent	62.5%	37.5%	100.0%
Column Percent	12.6%	9.4%	11.2%
EDUCATION	3	3	6
Row Percent	50.0%	50.0%	100.0%
Column Percent	2.5%	3.1%	2.8%
LAW	2	1	3
Row Percent	66.7%	33.3%	100.0%
Column Percent	1.7%	1.0%	1.4%
OTHER	9	16	25
Row Percent	36.0%	64.0%	100.0%
Column Percent	7.6%	16.7%	11.6%
TOTAL	119	96	215
Row Percent	55.3%	44.7%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-1 (Continued)

MS CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1990
by FIELD OF ADVANCED STUDY and SEX
1990 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	12	5	17
Row Percent	70.6%	29.4%	100.0%
Column Percent	66.7%	50.0%	60.7%
PHYSICAL SCIENCE	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	10.0%	3.6%
OTHER ENG	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	5.6%	10.0%	7.1%
BIOCHEMISTRY	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	5.6%	.0%	3.6%
PHARMACY	0	2	2
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	20.0%	7.1%
BUSINESS	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	11.1%	.0%	7.1%
EDUCATION	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	5.6%	.0%	3.6%
OTHER	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	5.6%	10.0%	7.1%
TOTAL	18	10	28
Row Percent	64.3%	35.7%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-1 (Continued)

PHD CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1990
by FIELD OF ADVANCED STUDY and SEX
1990 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	4	1	5
Row Percent	80.0%	20.0%	100.0%
Column Percent	25.0%	100.0%	29.4%
PHYSICAL SCIENCE	3	0	3
Row Percent	100.0%	.0%	100.0%
Column Percent	18.8%	.0%	17.6%
CHEM ENG	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	6.3%	.0%	5.9%
BIOCHEMISTRY	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	6.3%	.0%	5.9%
PHARMACY	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	6.3%	.0%	5.9%
BUSINESS	5	0	5
Row Percent	100.0%	.0%	100.0%
Column Percent	31.3%	.0%	29.4%
LAW	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	6.3%	.0%	5.9%
TOTAL	16	1	17
Row Percent	94.1%	5.9%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-2

BS CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1990
by FIELD OF ADVANCED STUDY and CERTIFICATION
1990 Starting Salary Survey

	CURRICULUM APPROVED?		TOTAL
	NO	YES	
FIELD OF FURTHER STUDIES			
CHEMISTRY	40	51	91
Row Percent	44.0%	56.0%	100.0%
Column Percent	33.6%	52.6%	42.1%
PHYSICAL SCIENCE	11	1	12
Row Percent	91.7%	8.3%	100.0%
Column Percent	9.2%	1.0%	5.6%
CHEM ENG	6	6	12
Row Percent	50.0%	50.0%	100.0%
Column Percent	5.0%	6.2%	5.6%
OTHER ENG	3	2	5
Row Percent	60.0%	40.0%	100.0%
Column Percent	2.5%	2.1%	2.3%
BIOCHEMISTRY	8	8	16
Row Percent	50.0%	50.0%	100.0%
Column Percent	6.7%	8.2%	7.4%
LIFE SCIENCE	6	2	8
Row Percent	75.0%	25.0%	100.0%
Column Percent	5.0%	2.1%	3.7%
MEDICINE	2	3	5
Row Percent	40.0%	60.0%	100.0%
Column Percent	1.7%	3.1%	2.3%
DENTISTRY	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	.8%	.0%	.5%
PHARMACY	7	1	8
Row Percent	87.5%	12.5%	100.0%
Column Percent	5.9%	1.0%	3.7%
BUSINESS	11	13	24
Row Percent	45.8%	54.2%	100.0%
Column Percent	9.2%	13.4%	11.1%
EDUCATION	3	3	6
Row Percent	50.0%	50.0%	100.0%
Column Percent	2.5%	3.1%	2.8%
LAW	3	0	3
Row Percent	100.0%	.0%	100.0%
Column Percent	2.5%	.0%	1.4%
OTHER	18	7	25
Row Percent	72.0%	28.0%	100.0%
Column Percent	15.1%	7.2%	11.6%
TOTAL	119	97	216
Row Percent	55.1%	44.9%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-3

CHEMICAL ENGINEERING GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1990
by FIELD OF ADVANCED STUDY, SEX, and DEGREE
1990 Starting Salary Survey

	BS			MS		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
FIELD OF FURTHER STUDIES						
CHEMISTRY	1	1	2	1	0	1
Row Percent	50.0%	50.0%	100.0%	100.0%	.0%	100.0%
Column Percent	1.2%	2.5%	1.6%	12.5%	.0%	10.0%
PHYSICAL SCIENCE	2	2	4	0	0	0
Row Percent	50.0%	50.0%	100.0%	.0%	.0%	.0%
Column Percent	2.3%	5.0%	3.2%	.0%	.0%	.0%
CHEM ENG	33	9	42	3	1	4
Row Percent	78.6%	21.4%	100.0%	75.0%	25.0%	100.0%
Column Percent	38.4%	22.5%	33.3%	37.5%	50.0%	40.0%
OTHER ENG	9	3	12	0	0	0
Row Percent	75.0%	25.0%	100.0%	.0%	.0%	.0%
Column Percent	10.5%	7.5%	9.5%	.0%	.0%	.0%
LIFE SCIENCE	2	1	3	0	0	0
Row Percent	66.7%	33.3%	100.0%	.0%	.0%	.0%
Column Percent	2.3%	2.5%	2.4%	.0%	.0%	.0%
BUSINESS	32	19	51	4	1	5
Row Percent	62.7%	37.3%	100.0%	80.0%	20.0%	100.0%
Column Percent	37.2%	47.5%	40.5%	50.0%	50.0%	50.0%
LAW	1	0	1	0	0	0
Row Percent	100.0%	.0%	100.0%	.0%	.0%	.0%
Column Percent	1.2%	.0%	.8%	.0%	.0%	.0%
OTHER	6	5	11	0	0	0
Row Percent	54.5%	45.5%	100.0%	.0%	.0%	.0%
Column Percent	7.0%	12.5%	8.7%	.0%	.0%	.0%
TOTAL	86	40	126	8	2	10
Row Percent	68.3%	31.7%	100.0%	80.0%	20.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table C-4

BS CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1990
by FIELD OF ADVANCED STUDY and SEX
1990 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	315	181	496
Row Percent	63.5%	36.5%	100.0%
Column Percent	42.9%	41.2%	42.2%
PHYSICAL SCIENCE	12	5	17
Row Percent	70.6%	29.4%	100.0%
Column Percent	1.6%	1.1%	1.4%
CHEM ENG	14	3	17
Row Percent	82.4%	17.6%	100.0%
Column Percent	1.9%	.7%	1.4%
OTHER ENG	11	3	14
Row Percent	78.6%	21.4%	100.0%
Column Percent	1.5%	.7%	1.2%
BIOCHEMISTRY	57	50	107
Row Percent	53.3%	46.7%	100.0%
Column Percent	7.8%	11.4%	9.1%
LIFE SCIENCE	12	20	32
Row Percent	37.5%	62.5%	100.0%
Column Percent	1.6%	4.6%	2.7%
MEDICINE	248	110	358
Row Percent	69.3%	30.7%	100.0%
Column Percent	33.7%	25.1%	30.5%
DENTISTRY	16	4	20
Row Percent	80.0%	20.0%	100.0%
Column Percent	2.2%	.9%	1.7%
PHARMACY	16	17	33
Row Percent	48.5%	51.5%	100.0%
Column Percent	2.2%	3.9%	2.8%
BUSINESS	6	1	7
Row Percent	85.7%	14.3%	100.0%
Column Percent	.8%	.2%	.6%
EDUCATION	5	11	16
Row Percent	31.3%	68.8%	100.0%
Column Percent	.7%	2.5%	1.4%
LAW	10	9	19
Row Percent	52.6%	47.4%	100.0%
Column Percent	1.4%	2.1%	1.6%
OTHER	13	25	38
Row Percent	34.2%	65.8%	100.0%
Column Percent	1.8%	5.7%	3.2%
TOTAL	735	439	1174
Row Percent	62.6%	37.4%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-4 (Continued)

MS CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1990
by FIELD OF ADVANCED STUDY and SEX
1990 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	87	47	134
Row Percent	64.9%	35.1%	100.0%
Column Percent	79.8%	82.5%	80.7%
PHYSICAL SCIENCE	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	.9%	.0%	.6%
CHEM ENG	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	1.8%	.0%	1.2%
OTHER ENG	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	.9%	.0%	.6%
BIOCHEMISTRY	7	5	12
Row Percent	58.3%	41.7%	100.0%
Column Percent	6.4%	8.8%	7.2%
LIFE SCIENCE	0	2	2
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	3.5%	1.2%
MEDICINE	5	2	7
Row Percent	71.4%	28.6%	100.0%
Column Percent	4.6%	3.5%	4.2%
PHARMACY	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	.9%	1.8%	1.2%
BUSINESS	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	.9%	.0%	.6%
LAW	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	1.8%	.0%	1.2%
OTHER	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	1.8%	.0%	1.2%
TOTAL	109	57	166
Row Percent	65.7%	34.3%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-4 (Continued)

PHD CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1990
by FIELD OF ADVANCED STUDY and SEX
1990 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	40	12	52
Row Percent	76.9%	23.1%	100.0%
Column Percent	72.7%	80.0%	74.3%
PHYSICAL SCIENCE	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	1.8%	.0%	1.4%
CHEM ENG	1	2	3
Row Percent	33.3%	66.7%	100.0%
Column Percent	1.8%	13.3%	4.3%
BIOCHEMISTRY	8	0	8
Row Percent	100.0%	.0%	100.0%
Column Percent	14.5%	.0%	11.4%
LIFE SCIENCE	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	1.8%	.0%	1.4%
MEDICINE	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	1.8%	.0%	1.4%
PHARMACY	3	0	3
Row Percent	100.0%	.0%	100.0%
Column Percent	5.5%	.0%	4.3%
OTHER	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	6.7%	1.4%
TOTAL	55	15	70
Row Percent	78.6%	21.4%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-5

BS CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1990
by FIELD OF ADVANCED STUDIES and CERTIFICATION
1990 Starting Salary Survey

	CURRICULUM APPROVED?		TOTAL
	NO	YES	
FIELD OF FURTHER STUDIES			
CHEMISTRY	110	386	496
Row Percent	22.2%	77.8%	100.0%
Column Percent	19.2%	64.1%	42.2%
PHYSICAL SCIENCE	8	9	17
Row Percent	47.1%	52.9%	100.0%
Column Percent	1.4%	1.5%	1.4%
CHEM ENG	10	7	17
Row Percent	58.8%	41.2%	100.0%
Column Percent	1.7%	1.2%	1.4%
OTHER ENG	3	11	14
Row Percent	21.4%	78.6%	100.0%
Column Percent	.5%	1.8%	1.2%
BIOCHEMISTRY	59	48	107
Row Percent	55.1%	44.9%	100.0%
Column Percent	10.3%	8.0%	9.1%
LIFE SCIENCE	24	8	32
Row Percent	75.0%	25.0%	100.0%
Column Percent	4.2%	1.3%	2.7%
MEDICINE	263	95	358
Row Percent	73.5%	26.5%	100.0%
Column Percent	46.0%	15.8%	30.5%
DENTISTRY	15	5	20
Row Percent	75.0%	25.0%	100.0%
Column Percent	2.6%	.8%	1.7%
PHARMACY	20	13	33
Row Percent	60.6%	39.4%	100.0%
Column Percent	3.5%	2.2%	2.8%
BUSINESS	4	3	7
Row Percent	57.1%	42.9%	100.0%
Column Percent	.7%	.5%	.6%
EDUCATION	11	5	16
Row Percent	68.8%	31.3%	100.0%
Column Percent	1.9%	.8%	1.4%
LAW	14	5	19
Row Percent	73.7%	26.3%	100.0%
Column Percent	2.4%	.8%	1.6%
OTHER	31	7	38
Row Percent	81.6%	18.4%	100.0%
Column Percent	5.4%	1.2%	3.2%
TOTAL	572	602	1174
Row Percent	48.7%	51.3%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-6

CHEMICAL ENGINEERING GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1990
by FIELD OF ADVANCED STUDY, SEX, and DEGREE
1990 Starting Salary Survey

	BS			MS		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
FIELD OF FURTHER STUDIES						
CHEMISTRY	6	2	8	0	0	0
Row Percent	75.0%	25.0%	100.0%	.0%	.0%	.0%
Column Percent	3.8%	3.1%	3.6%	.0%	.0%	.0%
PHYSICAL SCIENCE	0	0	0	1	0	1
Row Percent	.0%	.0%	.0%	100.0%	.0%	100.0%
Column Percent	.0%	.0%	.0%	1.4%	.0%	1.1%
CHEM ENG	109	45	154	66	22	88
Row Percent	70.8%	29.2%	100.0%	75.0%	25.0%	100.0%
Column Percent	68.6%	70.3%	69.1%	93.0%	95.7%	93.6%
OTHER ENG	11	4	15	2	0	2
Row Percent	73.3%	26.7%	100.0%	100.0%	.0%	100.0%
Column Percent	6.9%	6.3%	6.7%	2.8%	.0%	2.1%
BIOCHEMISTRY	2	0	2	0	0	0
Row Percent	100.0%	.0%	100.0%	.0%	.0%	.0%
Column Percent	1.3%	.0%	.9%	.0%	.0%	.0%
MEDICINE	18	8	26	0	0	0
Row Percent	69.2%	30.8%	100.0%	.0%	.0%	.0%
Column Percent	11.3%	12.5%	11.7%	.0%	.0%	.0%
DENTISTRY	1	0	1	0	0	0
Row Percent	100.0%	.0%	100.0%	.0%	.0%	.0%
Column Percent	.6%	.0%	.4%	.0%	.0%	.0%
BUSINESS	2	2	4	0	0	0
Row Percent	50.0%	50.0%	100.0%	.0%	.0%	.0%
Column Percent	1.3%	3.1%	1.8%	.0%	.0%	.0%
LAW	8	2	10	1	1	2
Row Percent	80.0%	20.0%	100.0%	50.0%	50.0%	100.0%
Column Percent	5.0%	3.1%	4.5%	1.4%	4.3%	2.1%
OTHER	2	1	3	1	0	1
Row Percent	66.7%	33.3%	100.0%	100.0%	.0%	100.0%
Column Percent	1.3%	1.6%	1.3%	1.4%	.0%	1.1%
TOTAL	159	64	223	71	23	94
Row Percent	71.3%	28.7%	100.0%	75.5%	24.5%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table C-7

BS CHEMISTRY GRADUATES WHO ARE NOT EMPLOYED and NOT SEEKING EMPLOYMENT
by SEX and PLANS FOR FURTHER STUDIES
1990 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
PURSUE ADVANCED STUDIES IN FALL 90			
YES, FULL-TIME	196	126	322
Row Percent	60.9%	39.1%	100.0%
Column Percent	86.0%	88.1%	86.8%
YES, PART-TIME	11	6	17
Row Percent	64.7%	35.3%	100.0%
Column Percent	4.8%	4.2%	4.6%
NO	21	11	32
Row Percent	65.6%	34.4%	100.0%
Column Percent	9.2%	7.7%	8.6%
TOTAL	228	143	371
Row Percent	61.5%	38.5%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-8

BS CHEMICAL ENGINEERING GRADUATES
WHO ARE NOT EMPLOYED and NOT SEEKING EMPLOYMENT
by SEX and PLANS FOR FURTHER STUDIES
1990 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
PURSUE ADVANCED STUDIES IN FALL 90			
YES, FULL-TIME	35	16	51
Row Percent	68.6%	31.4%	100.0%
Column Percent	89.7%	80.0%	86.4%
NO	4	4	8
Row Percent	50.0%	50.0%	100.0%
Column Percent	10.3%	20.0%	13.6%
TOTAL	39	20	59
Row Percent	66.1%	33.9%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table D-1

BS CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES
by AGE and SEX
1990 Starting Salary Survey

	FIELD					
	CHEMICAL ENGINEERING			CHEMISTRY		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
AGE						
20 OR UNDER	3	3	6	12	10	22
Row Percent	50.0%	50.0%	100.0%	54.5%	45.5%	100.0%
Column Percent	.4%	.8%	.5%	.9%	1.0%	1.0%
21	84	48	132	179	157	336
Row Percent	63.6%	36.4%	100.0%	53.3%	46.7%	100.0%
Column Percent	10.6%	13.2%	11.4%	13.5%	16.3%	14.7%
22	275	144	419	576	444	1020
Row Percent	65.6%	34.4%	100.0%	56.5%	43.5%	100.0%
Column Percent	34.7%	39.5%	36.2%	43.5%	46.1%	44.6%
23	264	123	387	224	153	377
Row Percent	68.2%	31.8%	100.0%	59.4%	40.6%	100.0%
Column Percent	33.3%	33.7%	33.4%	16.9%	15.9%	16.5%
24	76	21	97	93	62	155
Row Percent	78.4%	21.6%	100.0%	60.0%	40.0%	100.0%
Column Percent	9.6%	5.8%	8.4%	7.0%	6.4%	6.8%
25	28	5	33	58	34	92
Row Percent	84.8%	15.2%	100.0%	63.0%	37.0%	100.0%
Column Percent	3.5%	1.4%	2.9%	4.4%	3.5%	4.0%
26	12	7	19	32	19	51
Row Percent	63.2%	36.8%	100.0%	62.7%	37.3%	100.0%
Column Percent	1.5%	1.9%	1.6%	2.4%	2.0%	2.2%
27	14	5	19	28	16	44
Row Percent	73.7%	26.3%	100.0%	63.6%	36.4%	100.0%
Column Percent	1.8%	1.4%	1.6%	2.1%	1.7%	1.9%
28	8	1	9	23	9	32
Row Percent	88.9%	11.1%	100.0%	71.9%	28.1%	100.0%
Column Percent	1.0%	.3%	.8%	1.7%	.9%	1.4%
29	6	1	7	13	8	21
Row Percent	85.7%	14.3%	100.0%	61.9%	38.1%	100.0%
Column Percent	.8%	.3%	.6%	1.0%	.8%	.9%
30 to 34	17	3	20	52	28	80
Row Percent	85.0%	15.0%	100.0%	65.0%	35.0%	100.0%
Column Percent	2.1%	.8%	1.7%	3.9%	2.9%	3.5%
35 to 39	4	3	7	26	15	41
Row Percent	57.1%	42.9%	100.0%	63.4%	36.6%	100.0%
Column Percent	.5%	.8%	.6%	2.0%	1.6%	1.8%
40 to 49	1	1	2	9	8	17
Row Percent	50.0%	50.0%	100.0%	52.9%	47.1%	100.0%
Column Percent	.1%	.3%	.2%	.7%	.8%	.7%
TOTAL	792	365	1157	1325	963	2288
Row Percent	68.5%	31.5%	100.0%	57.9%	42.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table D-2

MS CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES
by AGE and SEX
1990 Starting Salary Survey

	FIELD					
	CHEMICAL ENGINEERING			CHEMISTRY		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
AGE						
22	1	3	4	1	1	2
Row Percent	25.0%	75.0%	100.0%	50.0%	50.0%	100.0%
Column Percent	.6%	5.9%	1.9%	.5%	.7%	.6%
23	13	3	16	7	6	13
Row Percent	81.3%	18.8%	100.0%	53.8%	46.2%	100.0%
Column Percent	8.0%	5.9%	7.5%	3.4%	4.1%	3.7%
24	19	11	30	30	26	56
Row Percent	63.3%	36.7%	100.0%	53.6%	46.4%	100.0%
Column Percent	11.7%	21.6%	14.1%	14.4%	17.8%	15.8%
25	30	8	38	38	19	57
Row Percent	78.9%	21.1%	100.0%	66.7%	33.3%	100.0%
Column Percent	18.5%	15.7%	17.8%	18.3%	13.0%	16.1%
26	26	10	36	25	22	47
Row Percent	72.2%	27.8%	100.0%	53.2%	46.8%	100.0%
Column Percent	16.0%	19.6%	16.9%	12.0%	15.1%	13.3%
27	20	4	24	19	17	36
Row Percent	83.3%	16.7%	100.0%	52.8%	47.2%	100.0%
Column Percent	12.3%	7.8%	11.3%	9.1%	11.6%	10.2%
28	7	4	11	20	6	26
Row Percent	63.6%	36.4%	100.0%	76.9%	23.1%	100.0%
Column Percent	4.3%	7.8%	5.2%	9.6%	4.1%	7.3%
29	12	1	13	10	10	20
Row Percent	92.3%	7.7%	100.0%	50.0%	50.0%	100.0%
Column Percent	7.4%	2.0%	6.1%	4.8%	6.8%	5.6%
30 to 34	24	6	30	43	20	63
Row Percent	80.0%	20.0%	100.0%	68.3%	31.7%	100.0%
Column Percent	14.8%	11.8%	14.1%	20.7%	13.7%	17.8%
35 to 39	7	1	8	11	11	22
Row Percent	87.5%	12.5%	100.0%	50.0%	50.0%	100.0%
Column Percent	4.3%	2.0%	3.8%	5.3%	7.5%	6.2%
40 to 49	3	0	3	4	7	11
Row Percent	100.0%	.0%	100.0%	36.4%	63.6%	100.0%
Column Percent	1.9%	.0%	1.4%	1.9%	4.8%	3.1%
50 to 64	0	0	0	0	1	1
Row Percent	.0%	.0%	.0%	.0%	100.0%	100.0%
Column Percent	.0%	.0%	.0%	.0%	.7%	.3%
TOTAL	162	51	213	208	146	354
Row Percent	76.1%	23.9%	100.0%	58.8%	41.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table D-3

PHD CHEMISTRY and CHEMICAL ENGINEERING GRADUATES
by AGE and SEX
1990 Starting Salary Survey

	FIELD					
	CHEMICAL ENGINEERING			CHEMISTRY		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
AGE						
23	0	0	0	2	0	2
Row Percent	.0%	.0%	.0%	100.0%	.0%	100.0%
Column Percent	.0%	.0%	.0%	.5%	.0%	.3%
24	1	0	1	0	1	1
Row Percent	100.0%	.0%	100.0%	.0%	100.0%	100.0%
Column Percent	.7%	.0%	.6%	.0%	.6%	.2%
25	3	0	3	2	4	6
Row Percent	100.0%	.0%	100.0%	33.3%	66.7%	100.0%
Column Percent	2.0%	.0%	1.8%	.5%	2.6%	1.0%
26	8	1	9	37	11	48
Row Percent	88.9%	11.1%	100.0%	77.1%	22.9%	100.0%
Column Percent	5.4%	4.8%	5.3%	8.5%	7.1%	8.1%
27	14	7	21	70	35	105
Row Percent	66.7%	33.3%	100.0%	66.7%	33.3%	100.0%
Column Percent	9.4%	33.3%	12.4%	16.1%	22.4%	17.7%
28	29	4	33	67	30	97
Row Percent	87.9%	12.1%	100.0%	69.1%	30.9%	100.0%
Column Percent	19.5%	19.0%	19.4%	15.4%	19.2%	16.4%
29	27	2	29	62	21	83
Row Percent	93.1%	6.9%	100.0%	74.7%	25.3%	100.0%
Column Percent	18.1%	9.5%	17.1%	14.2%	13.5%	14.0%
30 to 34	51	5	56	148	42	190
Row Percent	91.1%	8.9%	100.0%	77.9%	22.1%	100.0%
Column Percent	34.2%	23.8%	32.9%	33.9%	26.9%	32.1%
35 to 39	15	2	17	36	7	43
Row Percent	88.2%	11.8%	100.0%	83.7%	16.3%	100.0%
Column Percent	10.1%	9.5%	10.0%	8.3%	4.5%	7.3%
40 to 49	1	0	1	7	4	11
Row Percent	100.0%	.0%	100.0%	63.6%	36.4%	100.0%
Column Percent	.7%	.0%	.6%	1.6%	2.6%	1.9%
50 to 64	0	0	0	5	1	6
Row Percent	.0%	.0%	.0%	83.3%	16.7%	100.0%
Column Percent	.0%	.0%	.0%	1.1%	.6%	1.0%
TOTAL	149	21	170	436	156	592
Row Percent	87.6%	12.4%	100.0%	73.6%	26.4%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table D-4

CHEMISTRY POSTDOCTORAL RECIPIENTS
by AGE and SEX
1990 Starting Salary Survey

	MEN	WOMEN	TOTAL
AGE			
23	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	.6%	.0%	.5%
24	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	1.9%	.5%
25	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	1.9%	.5%
26	16	3	19
Row Percent	84.2%	15.8%	100.0%
Column Percent	9.6%	5.7%	8.6%
27	27	14	41
Row Percent	65.9%	34.1%	100.0%
Column Percent	16.2%	26.4%	18.6%
28	21	8	29
Row Percent	72.4%	27.6%	100.0%
Column Percent	12.6%	15.1%	13.2%
29	25	6	31
Row Percent	80.6%	19.4%	100.0%
Column Percent	15.0%	11.3%	14.1%
30 to 34	59	16	75
Row Percent	78.7%	21.3%	100.0%
Column Percent	35.3%	30.2%	34.1%
35 to 39	14	2	16
Row Percent	87.5%	12.5%	100.0%
Column Percent	8.4%	3.8%	7.3%
40 to 49	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	1.9%	.5%
50 to 64	4	1	5
Row Percent	80.0%	20.0%	100.0%
Column Percent	2.4%	1.9%	2.3%
TOTAL	167	53	220
Row Percent	75.9%	24.1%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table E-1

FULL-TIME EMPLOYED INEXPERIENCED CHEMISTS
by NUMBER OF JOB OFFERS, SEX, and DEGREE
1990 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
OFFERS OF EMPLOYMENT									
1	87	87	174	12	8	20	51	12	63
Row Percent	50.0%	50.0%	100.0%	60.0%	40.0%	100.0%	81.0%	19.0%	100.0%
Column Percent	36.0%	37.5%	36.7%	34.3%	26.7%	30.8%	35.7%	21.4%	31.7%
2	77	77	154	10	13	23	28	20	48
Row Percent	50.0%	50.0%	100.0%	43.5%	56.5%	100.0%	58.3%	41.7%	100.0%
Column Percent	31.8%	33.2%	32.5%	28.6%	43.3%	35.4%	19.6%	35.7%	24.1%
3	44	39	83	9	6	15	31	10	41
Row Percent	53.0%	47.0%	100.0%	60.0%	40.0%	100.0%	75.6%	24.4%	100.0%
Column Percent	18.2%	16.8%	17.5%	25.7%	20.0%	23.1%	21.7%	17.9%	20.6%
4	21	18	39	4	2	6	14	4	18
Row Percent	53.8%	46.2%	100.0%	66.7%	33.3%	100.0%	77.8%	22.2%	100.0%
Column Percent	8.7%	7.8%	8.2%	11.4%	6.7%	9.2%	9.8%	7.1%	9.0%
5	6	7	13	0	1	1	7	7	14
Row Percent	46.2%	53.8%	100.0%	.0%	100.0%	100.0%	50.0%	50.0%	100.0%
Column Percent	2.5%	3.0%	2.7%	.0%	3.3%	1.5%	4.9%	12.5%	7.0%
6 or 7	6	4	10	0	0	0	11	2	13
Row Percent	60.0%	40.0%	100.0%	.0%	.0%	.0%	84.6%	15.4%	100.0%
Column Percent	2.5%	1.7%	2.1%	.0%	.0%	.0%	7.7%	3.6%	6.5%
8 or 9	1	0	1	0	0	0	1	1	2
Row Percent	100.0%	.0%	100.0%	.0%	.0%	.0%	50.0%	50.0%	100.0%
Column Percent	.4%	.0%	.2%	.0%	.0%	.0%	.7%	1.8%	1.0%
TOTAL	242	232	474	35	30	65	143	56	199
Row Percent	51.1%	48.9%	100.0%	53.8%	46.2%	100.0%	71.9%	28.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table E-2

FULL-TIME EMPLOYED EXPERIENCED CHEMISTS
by NUMBER OF JOB OFFERS, SEX, and DEGREE
1990 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
OFFERS OF EMPLOYMENT									
1	39	39	78	8	12	20	29	8	37
Row Percent	50.0%	50.0%	100.0%	40.0%	60.0%	100.0%	78.4%	21.6%	100.0%
Column Percent	32.5%	34.2%	33.3%	24.2%	42.9%	32.8%	35.4%	40.0%	36.3%
2	31	32	63	13	9	22	18	4	22
Row Percent	49.2%	50.8%	100.0%	59.1%	40.9%	100.0%	81.8%	18.2%	100.0%
Column Percent	25.8%	28.1%	26.9%	39.4%	32.1%	36.1%	22.0%	20.0%	21.6%
3	25	22	47	7	2	9	22	3	25
Row Percent	53.2%	46.8%	100.0%	77.8%	22.2%	100.0%	88.0%	12.0%	100.0%
Column Percent	20.8%	19.3%	20.1%	21.2%	7.1%	14.8%	26.8%	15.0%	24.5%
4	16	13	29	3	3	6	7	3	10
Row Percent	55.2%	44.8%	100.0%	50.0%	50.0%	100.0%	70.0%	30.0%	100.0%
Column Percent	13.3%	11.4%	12.4%	9.1%	10.7%	9.8%	8.5%	15.0%	9.8%
5	5	4	9	1	2	3	4	0	4
Row Percent	55.6%	44.4%	100.0%	33.3%	66.7%	100.0%	100.0%	.0%	100.0%
Column Percent	4.2%	3.5%	3.8%	3.0%	7.1%	4.9%	4.9%	.0%	3.9%
6 or 7	2	4	6	1	0	1	1	2	3
Row Percent	33.3%	66.7%	100.0%	100.0%	.0%	100.0%	33.3%	66.7%	100.0%
Column Percent	1.7%	3.5%	2.6%	3.0%	.0%	1.6%	1.2%	10.0%	2.9%
8 or 9	1	0	1	0	0	0	1	0	1
Row Percent	100.0%	.0%	100.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
Column Percent	.8%	.0%	.4%	.0%	.0%	.0%	1.2%	.0%	1.0%
10 OR MORE	1	0	1	0	0	0	0	0	0
Row Percent	100.0%	.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%
Column Percent	.8%	.0%	.4%	.0%	.0%	.0%	.0%	.0%	.0%
TOTAL	120	114	234	33	28	61	82	20	102
Row Percent	51.3%	48.7%	100.0%	54.1%	45.9%	100.0%	80.4%	19.6%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table E-3

FULL-TIME EMPLOYED INEXPERIENCED CHEMICAL ENGINEERS
by NUMBER OF JOB OFFERS, SEX, and DEGREE
1990 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
OFFERS OF EMPLOYMENT									
1	88	30	118	10	2	12	27	1	28
Row Percent	74.6%	25.4%	100.0%	83.3%	16.7%	100.0%	96.4%	3.6%	100.0%
Column Percent	23.2%	17.0%	21.3%	26.3%	15.4%	23.5%	35.1%	8.3%	31.5%
2	74	55	129	11	2	13	19	1	20
Row Percent	57.4%	42.6%	100.0%	84.6%	15.4%	100.0%	95.0%	5.0%	100.0%
Column Percent	19.5%	31.3%	23.2%	28.9%	15.4%	25.5%	24.7%	8.3%	22.5%
3	68	27	95	4	5	9	11	3	14
Row Percent	71.6%	28.4%	100.0%	44.4%	55.6%	100.0%	78.6%	21.4%	100.0%
Column Percent	17.9%	15.3%	17.1%	10.5%	38.5%	17.6%	14.3%	25.0%	15.7%
4	49	19	68	6	2	8	6	3	9
Row Percent	72.1%	27.9%	100.0%	75.0%	25.0%	100.0%	66.7%	33.3%	100.0%
Column Percent	12.9%	10.8%	12.3%	15.8%	15.4%	15.7%	7.8%	25.0%	10.1%
5	43	15	58	4	1	5	4	1	5
Row Percent	74.1%	25.9%	100.0%	80.0%	20.0%	100.0%	80.0%	20.0%	100.0%
Column Percent	11.3%	8.5%	10.5%	10.5%	7.7%	9.8%	5.2%	8.3%	5.6%
6 or 7	53	25	78	3	1	4	10	2	12
Row Percent	67.9%	32.1%	100.0%	75.0%	25.0%	100.0%	83.3%	16.7%	100.0%
Column Percent	14.0%	14.2%	14.1%	7.9%	7.7%	7.8%	13.0%	16.7%	13.5%
8 or 9	4	5	9	0	0	0	0	1	1
Row Percent	44.4%	55.6%	100.0%	.0%	.0%	.0%	.0%	100.0%	100.0%
Column Percent	1.1%	2.8%	1.6%	.0%	.0%	.0%	.0%	8.3%	1.1%
TOTAL	379	176	555	38	13	51	77	12	89
Row Percent	68.3%	31.7%	100.0%	74.5%	25.5%	100.0%	86.5%	13.5%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table E-4

FULL-TIME EMPLOYED EXPERIENCED CHEMICAL ENGINEERS
by NUMBER OF JOB OFFERS, SEX, and DEGREE
1990 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
OFFERS OF EMPLOYMENT									
1	31	11	42	13	2	15	9	3	12
Row Percent	73.8%	26.2%	100.0%	86.7%	13.3%	100.0%	75.0%	25.0%	100.0%
Column Percent	16.1%	11.7%	14.6%	40.6%	15.4%	33.3%	19.1%	37.5%	21.8%
2	28	19	47	5	9	14	13	0	13
Row Percent	59.6%	40.4%	100.0%	35.7%	64.3%	100.0%	100.0%	.0%	100.0%
Column Percent	14.5%	20.2%	16.4%	15.6%	69.2%	31.1%	27.7%	.0%	23.6%
3	34	19	53	8	1	9	6	1	7
Row Percent	64.2%	35.8%	100.0%	88.9%	11.1%	100.0%	85.7%	14.3%	100.0%
Column Percent	17.6%	20.2%	18.5%	25.0%	7.7%	20.0%	12.8%	12.5%	12.7%
4	37	16	53	2	0	2	6	0	6
Row Percent	69.8%	30.2%	100.0%	100.0%	.0%	100.0%	100.0%	.0%	100.0%
Column Percent	19.2%	17.0%	18.5%	6.3%	.0%	4.4%	12.8%	.0%	10.9%
5	18	10	28	1	1	2	2	1	3
Row Percent	64.3%	35.7%	100.0%	50.0%	50.0%	100.0%	66.7%	33.3%	100.0%
Column Percent	9.3%	10.6%	9.8%	3.1%	7.7%	4.4%	4.3%	12.5%	5.5%
6 or 7	36	18	54	3	0	3	11	2	13
Row Percent	66.7%	33.3%	100.0%	100.0%	.0%	100.0%	84.6%	15.4%	100.0%
Column Percent	18.7%	19.1%	18.8%	9.4%	.0%	6.7%	23.4%	25.0%	23.6%
8 or 9	9	1	10	0	0	0	0	1	1
Row Percent	90.0%	10.0%	100.0%	.0%	.0%	.0%	.0%	100.0%	100.0%
Column Percent	4.7%	1.1%	3.5%	.0%	.0%	.0%	.0%	12.5%	1.8%
TOTAL	193	94	287	32	13	45	47	8	55
Row Percent	67.2%	32.8%	100.0%	71.1%	28.9%	100.0%	85.5%	14.5%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-1

BS CHEMISTRY GRADUATES
by CITIZENSHIP and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP								TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	
CITIZENSHIP									
U.S. NATIVE	10	24	5	26	64	44	1900	14	2087
Row Percent	.5%	1.1%	.2%	1.2%	3.1%	2.1%	91.0%	.7%	100.0%
Column Percent	90.9%	35.3%	20.8%	27.7%	80.0%	86.3%	96.9%	63.6%	90.3%
U.S. NATURALIZED	0	30	12	49	7	3	23	4	128
Row Percent	.0%	23.4%	9.4%	38.3%	5.5%	2.3%	18.0%	3.1%	100.0%
Column Percent	.0%	44.1%	50.0%	52.1%	8.8%	5.9%	1.2%	18.2%	5.5%
U.S. PERMANENT RESIDENT	0	9	5	14	8	3	26	2	67
Row Percent	.0%	13.4%	7.5%	20.9%	11.9%	4.5%	38.8%	3.0%	100.0%
Column Percent	.0%	13.2%	20.8%	14.9%	10.0%	5.9%	1.3%	9.1%	2.9%
OTHER VISA	1	5	2	5	1	1	11	2	28
Row Percent	3.6%	17.9%	7.1%	17.9%	3.6%	3.6%	39.3%	7.1%	100.0%
Column Percent	9.1%	7.4%	8.3%	5.3%	1.3%	2.0%	.6%	9.1%	1.2%
TOTAL	11	68	24	94	80	51	1960	22	2310
Row Percent	.5%	2.9%	1.0%	4.1%	3.5%	2.2%	84.8%	1.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-1 (Continued)

MS CHEMISTRY GRADUATES
by CITIZENSHIP and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP								TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	
CITIZENSHIP									
U.S. NATIVE	1	3	0	0	5	5	239	5	258
Row Percent	.4%	1.2%	.0%	.0%	1.9%	1.9%	92.6%	1.9%	100.0%
Column Percent	100.0%	6.3%	.0%	.0%	83.3%	71.4%	94.1%	71.4%	73.3%
U.S. NATURALIZED	0	3	2	5	1	0	3	0	14
Row Percent	.0%	21.4%	14.3%	35.7%	7.1%	.0%	21.4%	.0%	100.0%
Column Percent	.0%	6.3%	15.4%	31.3%	16.7%	.0%	1.2%	.0%	4.0%
U.S. PERMANENT RESIDENT	0	2	3	2	0	2	4	1	14
Row Percent	.0%	14.3%	21.4%	14.3%	.0%	14.3%	28.6%	7.1%	100.0%
Column Percent	.0%	4.2%	23.1%	12.5%	.0%	28.6%	1.6%	14.3%	4.0%
OTHER VISA	0	40	8	9	0	0	8	1	66
Row Percent	.0%	60.6%	12.1%	13.6%	.0%	.0%	12.1%	1.5%	100.0%
Column Percent	.0%	83.3%	61.5%	56.3%	.0%	.0%	3.1%	14.3%	18.8%
TOTAL	1	48	13	16	6	7	254	7	352
Row Percent	.3%	13.6%	3.7%	4.5%	1.7%	2.0%	72.2%	2.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-1 (Continued)

PHD CHEMISTRY GRADUATES
by CITIZENSHIP and ETHNICITY
1990 Starting Salary Survey

	RACE OR ETHNIC GROUP								TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	
CITIZENSHIP									
U.S. NATIVE	0	3	0	2	7	14	404	2	432
Row Percent	.0%	.7%	.0%	.5%	1.6%	3.2%	93.5%	.5%	100.0%
Column Percent	.0%	3.5%	.0%	5.6%	70.0%	82.4%	94.2%	66.7%	71.9%
U.S. NATURALIZED	0	2	0	1	0	1	9	0	13
Row Percent	.0%	15.4%	.0%	7.7%	.0%	7.7%	69.2%	.0%	100.0%
Column Percent	.0%	2.4%	.0%	2.8%	.0%	5.9%	2.1%	.0%	2.2%
U.S. PERMANENT RESIDENT	0	6	4	6	1	1	10	1	29
Row Percent	.0%	20.7%	13.8%	20.7%	3.4%	3.4%	34.5%	3.4%	100.0%
Column Percent	.0%	7.1%	19.0%	16.7%	10.0%	5.9%	2.3%	33.3%	4.8%
OTHER VISA	0	74	17	27	2	1	6	0	127
Row Percent	.0%	58.3%	13.4%	21.3%	1.6%	.8%	4.7%	.0%	100.0%
Column Percent	.0%	87.1%	81.0%	75.0%	20.0%	5.9%	1.4%	.0%	21.1%
TOTAL	0	85	21	36	10	17	429	3	601
Row Percent	.0%	14.1%	3.5%	6.0%	1.7%	2.8%	71.4%	.5%	100.0%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-2

CHEMISTRY GRADUATES
by CITIZENSHIP, SEX, and DEGREE
1990 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
CITIZENSHIP									
U.S. NATIVE	1219	877	2096	156	104	260	316	117	433
Row Percent	58.2%	41.8%	100.0%	60.0%	40.0%	100.0%	73.0%	27.0%	100.0%
Column Percent	90.6%	89.9%	90.3%	73.6%	72.7%	73.2%	71.2%	74.1%	71.9%
U.S. NATURALIZED	76	53	129	8	6	14	8	5	13
Row Percent	58.9%	41.1%	100.0%	57.1%	42.9%	100.0%	61.5%	38.5%	100.0%
Column Percent	5.7%	5.4%	5.6%	3.8%	4.2%	3.9%	1.8%	3.2%	2.2%
U.S. PERMANENT RESIDENT	36	32	68	7	7	14	16	13	29
Row Percent	52.9%	47.1%	100.0%	50.0%	50.0%	100.0%	55.2%	44.8%	100.0%
Column Percent	2.7%	3.3%	2.9%	3.3%	4.9%	3.9%	3.6%	8.2%	4.8%
OTHER VISA	14	14	28	41	26	67	104	23	127
Row Percent	50.0%	50.0%	100.0%	61.2%	38.8%	100.0%	81.9%	18.1%	100.0%
Column Percent	1.0%	1.4%	1.2%	19.3%	18.2%	18.9%	23.4%	14.6%	21.1%
TOTAL	1345	976	2321	212	143	355	444	158	602
Row Percent	57.9%	42.1%	100.0%	59.7%	40.3%	100.0%	73.8%	26.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-3

MINORITY CHEMISTRY GRADUATES
by MINORITY CLASSIFICATION, SEX, AND DEGREE
1990 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
MINORITY CLASSIFICATION									
AMER INDIAN	5	6	11	0	1	1	0	0	0
Row Percent	45.5%	54.5%	100.0%	.0%	100.0%	100.0%	.0%	.0%	.0%
Column Percent	3.0%	3.3%	3.1%	.0%	2.2%	1.0%	.0%	.0%	.0%
CHINESE	42	26	68	26	23	49	70	15	85
Row Percent	61.8%	38.2%	100.0%	53.1%	46.9%	100.0%	82.4%	17.6%	100.0%
Column Percent	25.0%	14.3%	19.4%	46.4%	50.0%	48.0%	54.7%	35.7%	50.0%
SUBCONT INDIAN	14	10	24	9	4	13	14	6	20
Row Percent	58.3%	41.7%	100.0%	69.2%	30.8%	100.0%	70.0%	30.0%	100.0%
Column Percent	8.3%	5.5%	6.9%	16.1%	8.7%	12.7%	10.9%	14.3%	11.8%
OTHER ASIAN	51	43	94	10	9	19	23	13	36
Row Percent	54.3%	45.7%	100.0%	52.6%	47.4%	100.0%	63.9%	36.1%	100.0%
Column Percent	30.4%	23.6%	26.9%	17.9%	19.6%	18.6%	18.0%	31.0%	21.2%
BLACK	25	55	80	4	2	6	6	4	10
Row Percent	31.3%	68.8%	100.0%	66.7%	33.3%	100.0%	60.0%	40.0%	100.0%
Column Percent	14.9%	30.2%	22.9%	7.1%	4.3%	5.9%	4.7%	9.5%	5.9%
HISPANIC	16	35	51	2	5	7	14	3	17
Row Percent	31.4%	68.6%	100.0%	28.6%	71.4%	100.0%	82.4%	17.6%	100.0%
Column Percent	9.5%	19.2%	14.6%	3.6%	10.9%	6.9%	10.9%	7.1%	10.0%
OTHER	15	7	22	5	2	7	1	1	2
Row Percent	68.2%	31.8%	100.0%	71.4%	28.6%	100.0%	50.0%	50.0%	100.0%
Column Percent	8.9%	3.8%	6.3%	8.9%	4.3%	6.9%	.8%	2.4%	1.2%
TOTAL	168	182	350	56	46	102	128	42	170
Row Percent	48.0%	52.0%	100.0%	54.9%	45.1%	100.0%	75.3%	24.7%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-4

BS CHEMICAL ENGINEERING GRADUATES
by CITIZENSHIP and ETHNICITY
1990 Starting Salary Survey

	MINORITY CLASSIFICATION								TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	
CITIZENSHIP									
U.S. NATIVE	11	16	2	15	16	48	958	1	1067
Row Percent	1.0%	1.5%	.2%	1.4%	1.5%	4.5%	89.8%	.1%	100.0%
Column Percent	100.0%	50.0%	25.0%	33.3%	76.2%	80.0%	97.8%	33.3%	92.0%
U.S. NATURALIZED	0	9	4	24	3	3	9	0	52
Row Percent	.0%	17.3%	7.7%	46.2%	5.8%	5.8%	17.3%	.0%	100.0%
Column Percent	.0%	28.1%	50.0%	53.3%	14.3%	5.0%	.9%	.0%	4.5%
U.S. PERMANENT RESIDENT	0	2	1	2	2	9	12	2	30
Row Percent	.0%	6.7%	3.3%	6.7%	6.7%	30.0%	40.0%	6.7%	100.0%
Column Percent	.0%	6.3%	12.5%	4.4%	9.5%	15.0%	1.2%	66.7%	2.6%
OTHER VISA	0	5	1	4	0	0	1	0	11
Row Percent	.0%	45.5%	9.1%	36.4%	.0%	.0%	9.1%	.0%	100.0%
Column Percent	.0%	15.6%	12.5%	8.9%	.0%	.0%	.1%	.0%	.9%
TOTAL	11	32	8	45	21	60	980	3	1160
Row Percent	.9%	2.8%	.7%	3.9%	1.8%	5.2%	84.5%	.3%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-4 (Continued)

MS CHEMICAL ENGINEERING GRADUATES
by CITIZENSHIP and ETHNICITY
1990 Starting Salary Survey

	MINORITY CLASSIFICATION								TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	
CITIZENSHIP									
U.S. NATIVE	4	2	1	0	2	3	122	3	137
Row Percent	2.9%	1.5%	.7%	.0%	1.5%	2.2%	89.1%	2.2%	100.0%
Column Percent	100.0%	8.0%	5.6%	.0%	33.3%	42.9%	87.8%	60.0%	63.1%
U.S. NATURALIZED	0	1	0	0	2	0	3	0	6
Row Percent	.0%	16.7%	.0%	.0%	33.3%	.0%	50.0%	.0%	100.0%
Column Percent	.0%	4.0%	.0%	.0%	33.3%	.0%	2.2%	.0%	2.8%
U.S. PERMANENT RESIDENT	0	4	0	1	1	2	5	0	13
Row Percent	.0%	30.8%	.0%	7.7%	7.7%	15.4%	38.5%	.0%	100.0%
Column Percent	.0%	16.0%	.0%	7.7%	16.7%	28.6%	3.6%	.0%	6.0%
OTHER VISA	0	18	17	12	1	2	9	2	61
Row Percent	.0%	29.5%	27.9%	19.7%	1.6%	3.3%	14.8%	3.3%	100.0%
Column Percent	.0%	72.0%	94.4%	92.3%	16.7%	28.6%	6.5%	40.0%	28.1%
TOTAL	4	25	18	13	6	7	139	5	217
Row Percent	1.8%	11.5%	8.3%	6.0%	2.8%	3.2%	64.1%	2.3%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-4 (Continued)

PHD CHEMICAL ENGINEERING GRADUATES
by CITIZENSHIP and ETHNICITY
1990 Starting Salary Survey

	MINORITY CLASSIFICATION								TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	
CITIZENSHIP									
U.S. NATIVE	0	2	0	0	1	3	102	1	109
Row Percent	.0%	1.8%	.0%	.0%	.9%	2.8%	93.6%	.9%	100.0%
Column Percent	.0%	8.7%	.0%	.0%	50.0%	60.0%	85.7%	50.0%	62.3%
U.S. NATURALIZED	0	2	0	7	0	1	5	1	16
Row Percent	.0%	12.5%	.0%	43.8%	.0%	6.3%	31.3%	6.3%	100.0%
Column Percent	.0%	8.7%	.0%	50.0%	.0%	20.0%	4.2%	50.0%	9.1%
U.S. PERMANENT RESIDENT	0	3	0	0	1	0	3	0	7
Row Percent	.0%	42.9%	.0%	.0%	14.3%	.0%	42.9%	.0%	100.0%
Column Percent	.0%	13.0%	.0%	.0%	50.0%	.0%	2.5%	.0%	4.0%
OTHER VISA	0	16	10	7	0	1	9	0	43
Row Percent	.0%	37.2%	23.3%	16.3%	.0%	2.3%	20.9%	.0%	100.0%
Column Percent	.0%	69.6%	100.0%	50.0%	.0%	20.0%	7.6%	.0%	24.6%
TOTAL	0	23	10	14	2	5	119	2	175
Row Percent	.0%	13.1%	5.7%	8.0%	1.1%	2.9%	68.0%	1.1%	100.0%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-5

CHEMICAL ENGINEERING GRADUATES
by CITIZENSHIP, SEX, and DEGREE
1990 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
CITIZENSHIP									
U.S. NATIVE	750	325	1075	100	38	138	96	15	111
Row Percent	69.8%	30.2%	100.0%	72.5%	27.5%	100.0%	86.5%	13.5%	100.0%
Column Percent	93.3%	89.3%	92.0%	60.6%	73.1%	63.6%	62.3%	65.2%	62.7%
U.S. NATURALIZED	24	28	52	5	1	6	11	5	16
Row Percent	46.2%	53.8%	100.0%	83.3%	16.7%	100.0%	68.8%	31.3%	100.0%
Column Percent	3.0%	7.7%	4.5%	3.0%	1.9%	2.8%	7.1%	21.7%	9.0%
U.S. PERMANENT RESIDENT	22	8	30	9	4	13	6	1	7
Row Percent	73.3%	26.7%	100.0%	69.2%	30.8%	100.0%	85.7%	14.3%	100.0%
Column Percent	2.7%	2.2%	2.6%	5.5%	7.7%	6.0%	3.9%	4.3%	4.0%
OTHER VISA	8	3	11	51	9	60	41	2	43
Row Percent	72.7%	27.3%	100.0%	85.0%	15.0%	100.0%	95.3%	4.7%	100.0%
Column Percent	1.0%	.8%	.9%	30.9%	17.3%	27.6%	26.6%	8.7%	24.3%
TOTAL	804	364	1168	165	52	217	154	23	177
Row Percent	68.8%	31.2%	100.0%	76.0%	24.0%	100.0%	87.0%	13.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-6

MINORITY CHEMICAL ENGINEERING GRADUATES
by MINORITY CLASSIFICATION, SEX, AND DEGREE
1990 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
RACE OR ETHNIC GROUP									
AMER INDIAN	8	3	11	3	1	4	0	0	0
Row Percent	72.7%	27.3%	100.0%	75.0%	25.0%	100.0%	.0%	.0%	.0%
Column Percent	7.1%	4.2%	6.0%	5.0%	5.9%	5.2%	.0%	.0%	.0%
CHINESE	22	10	32	17	8	25	20	3	23
Row Percent	68.8%	31.3%	100.0%	68.0%	32.0%	100.0%	87.0%	13.0%	100.0%
Column Percent	19.6%	14.1%	17.5%	28.3%	47.1%	32.5%	40.8%	42.9%	41.1%
SUBCONT INDIAN	4	4	8	15	2	17	10	0	10
Row Percent	50.0%	50.0%	100.0%	88.2%	11.8%	100.0%	100.0%	.0%	100.0%
Column Percent	3.6%	5.6%	4.4%	25.0%	11.8%	22.1%	20.4%	.0%	17.9%
OTHER ASIAN	20	25	45	12	1	13	11	3	14
Row Percent	44.4%	55.6%	100.0%	92.3%	7.7%	100.0%	78.6%	21.4%	100.0%
Column Percent	17.9%	35.2%	24.6%	20.0%	5.9%	16.9%	22.4%	42.9%	25.0%
BLACK	10	12	22	5	1	6	1	1	2
Row Percent	45.5%	54.5%	100.0%	83.3%	16.7%	100.0%	50.0%	50.0%	100.0%
Column Percent	8.9%	16.9%	12.0%	8.3%	5.9%	7.8%	2.0%	14.3%	3.6%
HISPANIC	46	16	62	6	1	7	5	0	5
Row Percent	74.2%	25.8%	100.0%	85.7%	14.3%	100.0%	100.0%	.0%	100.0%
Column Percent	41.1%	22.5%	33.9%	10.0%	5.9%	9.1%	10.2%	.0%	8.9%
OTHER	2	1	3	2	3	5	2	0	2
Row Percent	66.7%	33.3%	100.0%	40.0%	60.0%	100.0%	100.0%	.0%	100.0%
Column Percent	1.8%	1.4%	1.6%	3.3%	17.6%	6.5%	4.1%	.0%	3.6%
TOTAL	112	71	183	60	17	77	49	7	56
Row Percent	61.2%	38.8%	100.0%	77.9%	22.1%	100.0%	87.5%	12.5%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

American Chemical Society

1155 SIXTEENTH STREET, N.W.
WASHINGTON, D.C. 20036
Phone (202) 872-4534

JOHN K CRUM
Executive Director

Summer 1990

Dear Colleague:

Every year, the American Chemical Society conducts a mail survey of persons who have recently earned degrees in chemistry or chemical engineering. Published results, which include information about salaries and employment, are useful to the profession, and especially to those beginning their careers.

I urge you, as a service to your colleagues and profession, to respond to this year's questionnaire. The procedure is confidential. The information you provide will be combined with returns from other graduates so that only aggregated data will be available. To ensure confidentiality, your name and address will not be coded with the information you provide.

Please complete this questionnaire and return it promptly. For your convenience, I have enclosed a self-addressed, postage-paid envelope. Results of the survey will be published in the CHEMICAL AND ENGINEERING NEWS' Career Issue this October and in a more extensive report later in the year.

Thank you for your assistance with this survey. I extend my best wishes for every success in your professional pursuits.

Sincerely,

John K Crum

John K Crum

Enclosure

AMERICAN CHEMICAL SOCIETY

Survey of Starting Salaries and Employment Status of 1990 Chemistry and Chemical Engineering Graduates

1. Highest degree earned:

- Bachelor's 1
- Master's 2
- Doctorate 3

2. Field of highest degree:

- Chemical engineering 01
- Biochemical engineering 02
- Biochemistry 03
- General chemistry 04
- Analytical chemistry 05
- Inorganic chemistry 06
- Organic chemistry 07
- Physical chemistry 08
- Polymer chemistry 09
- Other chemistry 10
- Other (please specify) 11

3. Please describe the school that granted your degree:

a. Public 1
Private 2

b. Total number of students:
- Less than 1,500 1
- 1,500 to 4,999 2
- 5,000 to 9,999 3
- 10,000 to 19,999 4
- 20,000 or more 5

c. The highest degree offered by your department is:
- BS 1
- MS 2
- PhD 3

d. Location of school. Please give first three digits of zip code: ___ ___ ___

e. Is the school an historically or predominantly black institution?
- Yes 1
- No 2

f. Is the school a traditionally women's institution?
- Yes 1
- No 2

4. How would you rate the state of equipment and instrumentation in your chemistry or chemical engineering classes?

a. The type of equipment was:
- Excellent 1
- Adequate 2
- Inadequate 3

b. The access to equipment was:
- Excellent 1
- Adequate 2
- Inadequate 3

c. How up-to-date was the equipment?
- Extremely 1
- Moderately 2
- Not at all 3

5. How would you rate the state of computer equipment and software in your chemistry or chemical engineering classes?

a. The type of computer equipment was:
- Excellent 1
- Adequate 2
- Inadequate 3

b. The type of computer software was:
- Excellent 1
- Adequate 2
- Inadequate 3

c. The access to computer equipment was:
- Excellent 1
- Adequate 2
- Inadequate 3

d. How up-to-date was the computer equipment?
- Extremely 1
- Moderately 2
- Not at all 3

IF HIGHEST DEGREE EARNED WAS A MASTER'S OR DOCTORATE, PLEASE SKIP TO QUESTION 9.

6. In your chemistry classes, did you get a chance to:

a. Work in teams?
- Yes 1
- No 2

b. Work on independent research projects?
- Yes 1
- No 2

7. Did you participate in a chemistry or chemical engineering cooperative education program while in college?

- Yes 1
- No 2

8. Grade point average:
[Use A = 4.00; B = 3.00; C = 2.00]

In your major _____

Overall _____

9. Will you pursue advanced studies in the fall of 1990?

- Yes, full-time 1
- Yes, part-time 2
- No 3

a. If yes, field of further studies:
- Chemistry 01
- Other physical science, computer science or mathematics 02
- Chemical engineering or biochemical engineering 03
- Other engineering 04
- Biochemistry 05
- Life science 06
- Medicine 07
- Dentistry 08
- Pharmacy, pharmacology 09
- Business management 10
- Education 11
- Law 12
- Other 13

10. Age at last birthday? __ __ years old

11. Sex:
- Male ... ☐ 1
- Female ... ☐ 2

12. Citizenship or visa status:
- U.S. native ... ☐ 1
- U.S. naturalized ... ☐ 2
- U.S. permanent resident visa ... ☐ 3
- Other visa ... ☐ 4

13. Race or ethnic group:
- American Indian or Alaskan Native ... ☐ 1
- Chinese ... ☐ 2
- Subcontinental Indian ... ☐ 3
- Other Asian or Pacific Islander ... ☐ 4
- Black (not of Hispanic origin) ... ☐ 5
- Hispanic ... ☐ 6
- White (not of Hispanic origin) ... ☐ 7
- Other race or ethnic group ... ☐ 8

14. Current employment status:
- Accepted or continuing full-time employment (excluding summer employment) ... ☐ 1
- Accepted a graduate assistantship, fellowship or postdoctoral fellowship ... ☐ 2
- Part-time employment ... ☐ 3
- Temporary/summer employment ... ☐ 4

a. If not continuing full-time employment, are you:
- *seeking* full-time, year-round employment ... ☐ 1
- *not seeking* full-time, year-round employment ... ☐ 2

IF YOU CHECKED BOX 3 OR 4 IN QUESTION 14, PLEASE STOP HERE AND RETURN THE QUESTIONNAIRE IN THE ENVELOPE PROVIDED

15. Your base annual salary from principal job:

$ _____ per year

IF YOU HOLD AN ASSISTANTSHIP OR FELLOWSHIP, PLEASE STOP HERE AND RETURN THE QUESTIONNAIRE IN THE ENVELOPE PROVIDED.

16. How many firm offers of employment did you receive in a field of chemistry or chemical engineering?

Specify number _____

17. Professional or technical work experience prior to graduation
- Less than 12 months (or none) ... ☐ 1
- 12 to 36 months ... ☐ 2
- More than 36 months ... ☐ 3

18. Check the one specialty most related to your job:
- Chemical engineering ... ☐ 1
- Chemistry (including biochemistry) ... ☐ 2
- Other ... ☐ 3

19. Check the one category that best describes your employer:
- Private industry ... ☐ 1
- College or university ... ☐ 2
- High school or other school ... ☐ 3
- Federal government (civilian) ... ☐ 4
- Military ... ☐ 5
- State or local government ... ☐ 6
- Hospital or independent laboratory ... ☐ 7
- Other ... ☐ 8

20. If you are employed in private industry, check the one category that best describes the type of industry:
- Nonmanufacturing ... ☐ 01
- Manufacturing
  - Aerospace ... ☐ 02
  - Basic chemicals ... ☐ 03
  - Specialty chemicals ... ☐ 04
  - Agricultural chemicals ... ☐ 05
  - Electronics ... ☐ 06
  - Petroleum, natural gas ... ☐ 07
  - Pharmaceuticals, personal care ... ☐ 08
  - Plastics ... ☐ 09
  - Other manufactures ... ☐ 10

21. Check the one work function that best describes your job:
- Teaching ... ☐ 1
- Management or administration ... ☐ 2
- Basic Research ... ☐ 3
- Applied research/Development/Design ... ☐ 4
- Production/Quality control ... ☐ 5
- Other ... ☐ 6

a. Is your job classified as a technician position?
- Yes ... ☐ 1
- No ... ☐ 2

22. Employer's approximate number of employees (total for the whole organization):
- Less than 500 ... ☐ 1
- 500 to 2,499 ... ☐ 2
- 2,500 to 9,999 ... ☐ 3
- 10,000 to 24,999 ... ☐ 4
- 25,000 or more ... ☐ 5

23. Geographic location of employment: Please give first three digits of zip code.

__ __ __

Comments:

THANK YOU FOR YOUR PARTICIPATION

PLEASE RETURN THIS QUESTIONNAIRE PROMPTLY TO

ACS STARTING SALARY SURVEY
ROOM 610, 1155 16th Street NW, Washington, DC 20036

ACS MEMBER SERVICES PUBLICATIONS

Salaries: The Society annually surveys the ACS membership, gathering detailed information on member chemists and chemical engineers. The reports based on this survey contain statistical tables describing the respondents' employment status, employer, work function and specialty, salaries, and demographic characteristics.

Reports are available for each year from 1973 through the current year. For 1987, four separate reports are available: *1987 Salaries of Non-Academic Chemists, 1987 Salaries of Non-Academic Chemical Engineers, 1987 Salaries of Academic Chemists, and 1987 Employment Status and Demographic Characteristics of ACS Members.*

Professionals in Chemistry: The *Professionals in Chemistry* series compiled information concerning chemists and chemical engineers from ACS, government, and private industry sources. It detailed information on demography, employment, salaries, education, and supply and demand for the entire chemical profession.

Reports are available for each year from 1975 through 1978, and combined reports for 1979-1980, 1981-82, 1983-84, and 1985-86.

Special Reports:

1975 Report of Chemists' Salaries and Employment Status Supplement: Economic Status of Women in the ACS.

Women Chemists 1980: A supplemental report on the ACS's 1980 Survey of Salaries and Employment.

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Women Chemists 1990: A supplemental report on the ACS's 1990 Survey of Salaries and Employment.

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